DANSAI CTV-1406

MODEL

SERVICE MANUAL

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CAUTION: BEFORE SERVICING THE CHASSIS, READ THE "SAFETY PRECAUTION", "X-RAY RADIATION PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The normal value of the high voltage of this receiver is 25KV at zero beam current (minimum brightness) under 220V AC power source. The high voltage must not, under any circumstances, exceed 28KV.
2. Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
3. The primary source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
4. Some parts in this receiver have special safety - related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY PRECAUTION

WARNING:

Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to to observed before servicing this chassis.

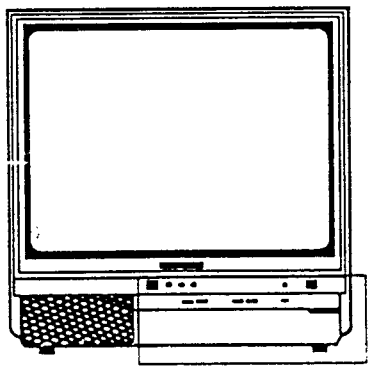
1. Since the power supply circuit of this receiver is directly connected to the AC power line, an isolation transformer should be used during any dynamic service to avoid possible shock hazard.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.
4. When replacing parts or circuit boards, disconnect the power cord.
5. When replacing a high wattage resistor (oxide metal film resistor) on circuit board, keep the resistor 10mm (1/2 in.) away from circuit board.
6. Connection wires must be kept away from components with high voltage or high temperature.
7. If any fuse in this TV receiver is blown, replace it with the FUSE specified in the chassis parts list.
8. The receiver is designed to operate with 220V (50Hz) AC mains.

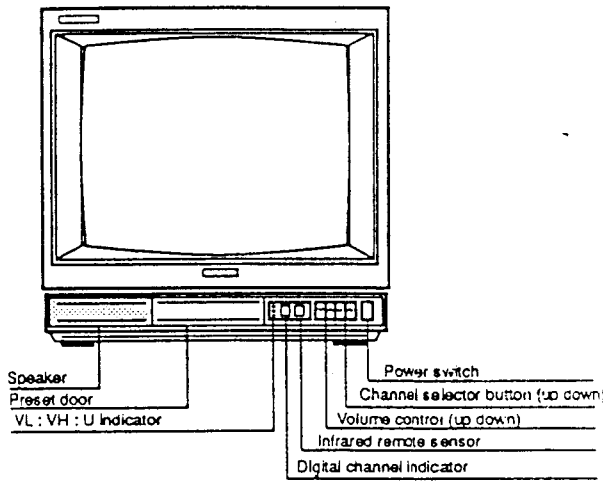
PRODUCT SAFETY NOTICE

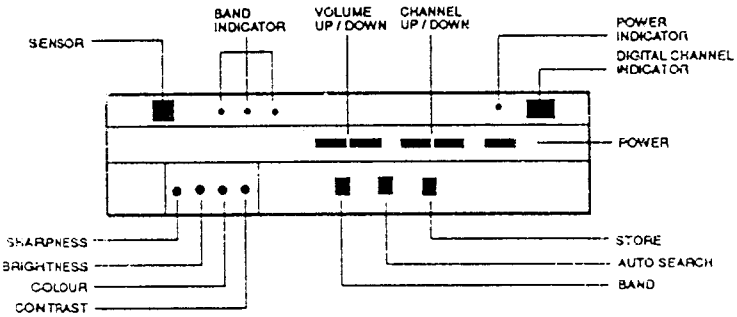
Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-RAY RADIATION protection afforded by them cannot necessarily be obtained by using replacement components rated for higher wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements electrical components having such features are shaded on the schematic diagram and the parts list.

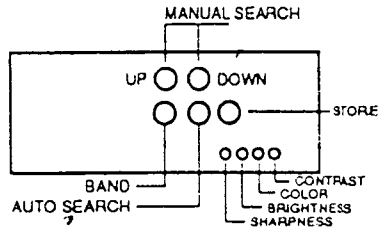
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-RAY RADIATION or other hazards.

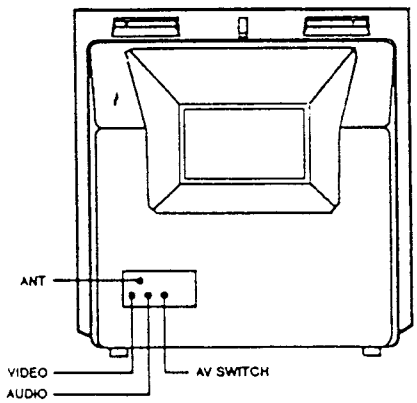
OPERATION CONTROLS

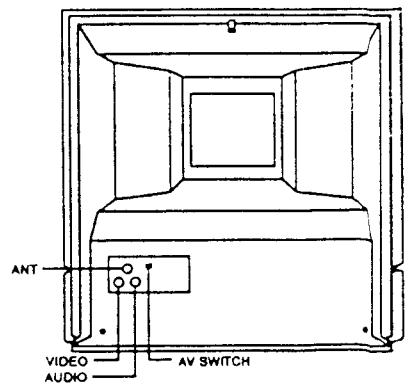












20" MODEL

GENERAL ADJUSTMENT INSTRUCTION

This receiver is transistorized and special care should be taken when servicing. Read the following matters that demand special attention before attempting adjustment.

1. Adjustment requires and exact procedure and should be under taken only when necessary.
2. An isolation transformer should be used during any dynamic service to avoid possible shock hazard.
3. The test equipment specified or its equvalent is required to perform the alignment properly. Use of equipment which does not meet these requirements may result in improper alignment.
4. Correct matching of the equipment is essential. Failure to use proper matching will result in responses which can not represent the ture operation of the receiver.
5. The AC power line voltage should be kept 215 to 225 volts 50Hz during alignment.
6. Do not attempt to connect or disconnect nay wire while the receiver is in operation. Make sure the power cord is disconnected before replacing parts in the receiver.
7. Unless otherwise noted, do not perform any adjustment until the receiver has been turned on for at least 10 minutes.

Note: For safety sake, the following adjustment should be conducted with the low voltage DC supply to avoid shock hazard.

A). Picture and Sound I. F. Adjustment

Test Equipment:

1. AM/FM signal generator (4.5MHz ~ 6.5MHz).
2. Sweep/Marker signal operator (30MHz ~ 60MHz).
3. Sync. oscilloscope.
4. Oscilloscope (Volt sensitivity over 10mV and input impedance over 1M ohm, below 10 PF).
5. Probe (Low capacitance).
6. High impedance electronic voltmeter on VTVM (Input impedance having 100K ohm/V at least)
7. DC power supply (Source such as a battery or a wall regulated and isolated DC bias supply).
8. Frequency counter.

B). Picture I. F. Alignment

P. I. F. Alignment

(a). Connect the signal output of sweep/marker generator to the Test Point of tuner through 1K ohm resistor and 1000PF capacitor (See Fig. 5)

(b). Connect the vertical input terminal of an sync oscilloscope in series with a 100K ohm resistor to TP4.

(c). Apply a +12V DC across C135 on Main board.

(d). Apply a + 8V DC dummy AGC bias to Pin 5 of IC101.

(e). Tune L104 and L106 to obtain a waveform as shown in Fig. 6.

C). AFC OVERALL RESPONSE Alignment

(a). Act the step (a), (c) and (d) of Picture I. F. Alignment.

(b). Reconnect oscillscope to TP18 through a 1M ohm resistor.

(c). Adjust coil L107 that 38.9MHz Market is set at the center position as shown in Fig. 7

D). S. I. F. Alignment (5.5MHz)

(a). Set FM signal generator to 5.5MHz with AF 400Hz, 25KHz FM modulation output level 60dB. Apply the signal to TP3 through a 1K ohm resistor and a 1000PF capacitor. AS shown in Fig. 8.

(b). Connect the oscilloscope input in Series with a 100K ohm resistor to TP5.

(c). Apply a + 12V DC across C135.

(d). Fine adjust L105 to obtain a maximum amplitude signal output with minumum distortion.

Note: In case of the D/K system, sound carrier frequency should be at the point of 6.5MHz and video carrier frequency at the point of 38.0MHz.

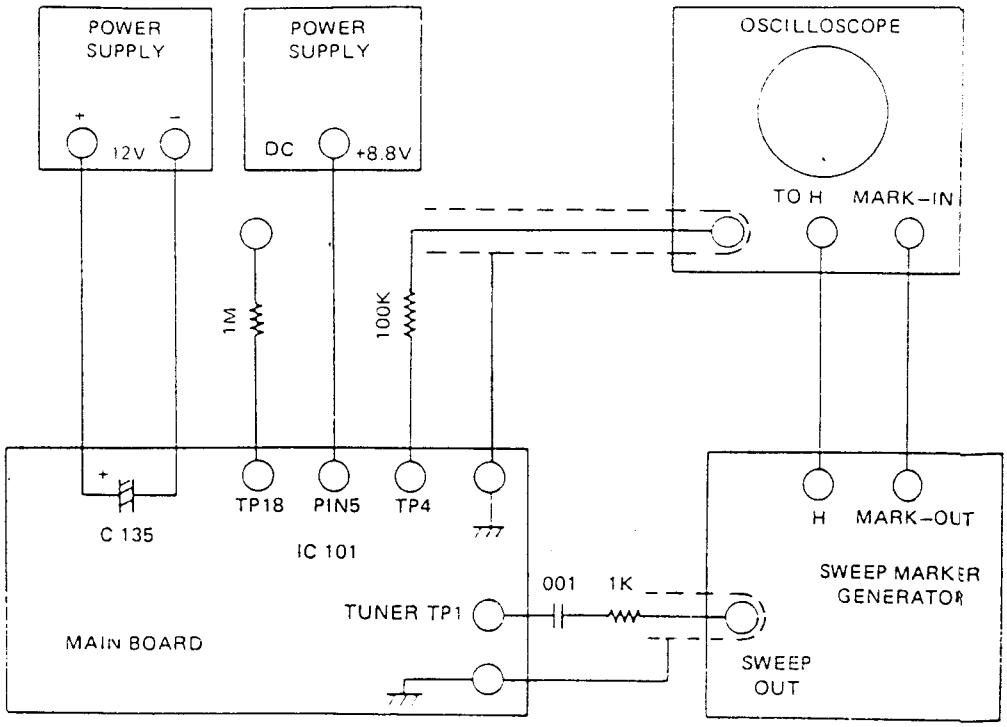
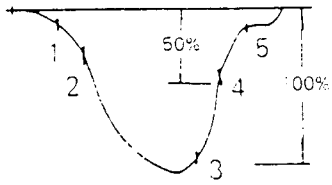


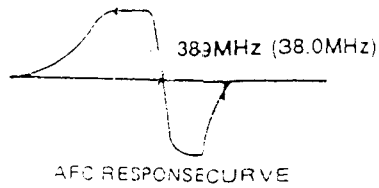
Fig. 5



PIF RESPONSE CURVE
(MHz)

	B/G SYSTEM	(D/K SYSTEM)
1.	33.4	31.5
2.	34.47	33.57
3.	37.9	37.0
4.	38.9	38.0
5.	40.4	39.5

Fig. 6



AFC RESPONSECURVE

Fig.

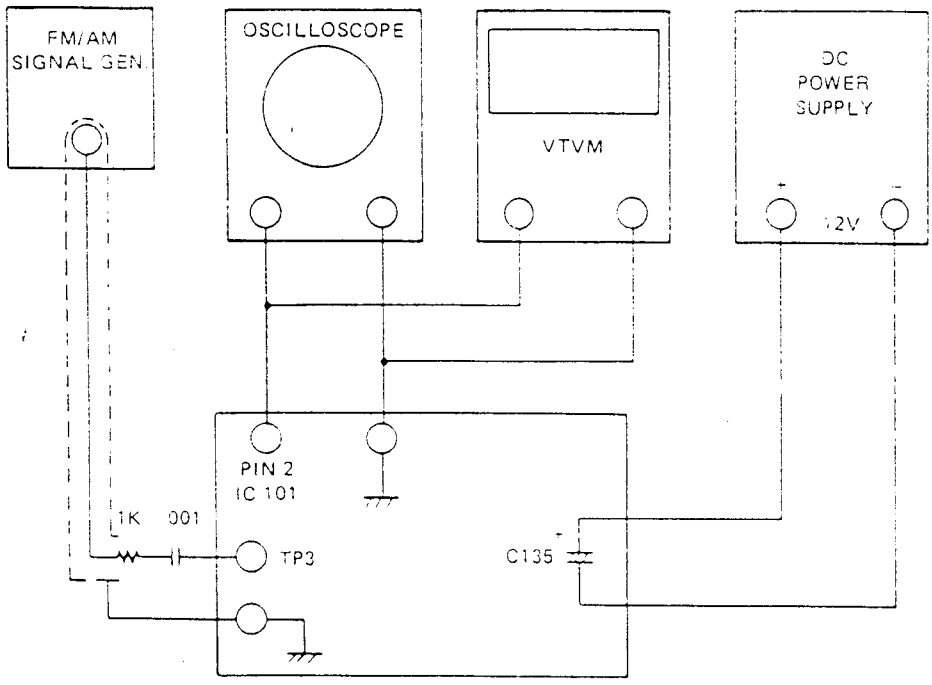


Fig.8

GENERAL ADJUSTMENT

1. AUTOMATIC DEGAUSSING

An automatic deguassing coil is attached around the picture tube, degaussing the tube properly in about one second after the set is switched on. If the receiver is moved or faced in a different direction, the power must be switched off at least 15 minutes in order that the automatic degaussing circuit operates properly. External degaussing is necessary if the automatic degaussing proves ineffective after the set is moved. External degaussing is done by moving a degaussing coil circlewise in front of the face plate and then moving it away step by step until it is about two meters from the screen then switch off the degaussing coil. If residual color spots are still found on the screen, adjust the color purity and convergence.

See prodcedure of these adjustment in this manual.

2. B + (110V) ADJUSTMENT

CAUTION: To avoid X-ray hazards, B + voltage must be set correctly at 110V position.

(a) Make sure the AC Power Supply is 220V, 50Hz.
(b) Switch on the TV receiver, tune in an active channel and adjust brightness/contrast for maximum.
(c) On Main PCB check the B + voltage at C326 with a reliable DC voltmeter.
(d). Adjust VR501 on Power Supply PCB for B + 110V voltage reading.

3. HIGH VOLTAGE CHECK

CAUTION: There is no high voltage adjustment in this chassis, B + 110V voltage directly relates to the high voltage, it must be properly adjusted to insure the correct high voltage. The high voltage must not exceed 28kV under any conditions.

(a) Connect an accurate high voltage meter to the second anode cap of the picture tube.
(b) Turn on the receiver, set brightness and contrast controls to minimum. (Zerobeam current)
(c) Make sure the high voltage does not exceed 28kV.
(d) No matter whether the luminance, contrast and chrominance controls are set to maximum or minimum, the high voltage must be kept under 28kV.

4. HEIGHT ADJUSTMENT

(a) Receive the Philips Pattern signal.
(b) Adjust the height control (VR208) to slightly overscan the screen.

5. FOCUSING ADJUSTMENT

(a) Receive the Philips Pattern signal.
(b) Set the contrast control to the normal position.
(c) Adjust focus control for a well-defined, snarpest display on the screen.

6. WHITE BALANCE ADJUSTMENT

(a) Set TV brightness control to minimum and switch to AV mode.
(b) Set the R. G. B. cut off controls (VR503, VR504, VR505) and the G. B. drive controls (VR501, VR502) at center positions
(c) Rotate the screen control on the FBT fully counter clockwise.
(d) Connect TP13 to ground with a jumper wire.
(e) Rotate the screen control gradually clockwise until the first horizontal line appears on the screen.
(f) If the first horizontal line is in blue, adjust VR503, VR504 to increase the red and green component level to get a white horizontal line.
(g) Remove the jumper wire and switch back to TV, set color to minimum. Adjust VR501, VR502 to maintain a good white balance at the brightest part of the screen.
(h) Use white balance checker to fine adjust (VR503, VR504, VR505) at 25% brightness level and (VR501, VR502) at 75% brightness level.

7. DELAY AGC ADJUSTMENT

(a) Tune in the color bar pattern signal (Ch E69).
(b) Set input signal level at 60dB.
(c) Connect a high impedance DC voltmeter to tuner AGC terminal.
(d) Adjust AGC control (VR101) for 6.0V ± 0.2V reading.
(e) Increase input signal level to 100dB.
(f) Check for normal picture, sound and sync.

8. SUB-BRIGHTNESS ADJUSTMENT

(a) Set TV controls to normal.
(b) Switch TV to AV.
(c) Adjust sub-brightness control (VR210) until light just appears on the screen.

9. SUB-COLOR ADJUSTMENT

(a) Receive the Philips Pattern signal.
(b) Set color control on remote control to the minimum.
(c) Adjust sub-color control (VR1401) until the color just disappears.

10. PAL MATRIX ADJUSTMENT
    (a) Tune in a color bar signal.
    (b) Use oscilloscope with 2 channels input and set to the "X-Y" mode.
    (c) Channel 1 (X) connected to TP28 (Pin 1 of IC1401) (R-Y).
    (d) Channel 2 (Y) connected TP29 (Pin 3 of IC1401) (B-Y).
    (e) Adjust amplitude balance VR205 until the center points of the two waveforms coincided (as shown in Fig. 9).
    (f) Adjust L204 and L205 until all other points of the two waveforms coincided (as shown in Fig. 9).

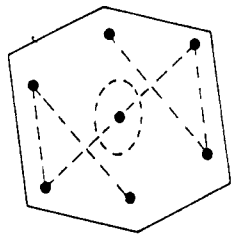


Fig. 9

COLOUR DECODER ADJUSTMENT FOR SECAM SYSTEM

1. IDENT FILTER ADJUSTMENT
    (a) Apply a SECAM color bar signal (60dB level) to the input.
    (b) Connect a high impedance DC voltmeter to TP27 (Pin 10 of IC1401).
    (c) Adjust L1403 of the ident filter for minimum voltage at Pin 10 (=3V).

2. BELL FILTER ADJUSTMENT
    (a) Apply a SECAM color bar signal (60dB level) to the antenna input.
    (b) Connect an oscilloscope to TP25 (Pin 14 of IC1401).
    (c) Adjust L1405 to make the envelop of color bar signal into flat response (Fig. 10).

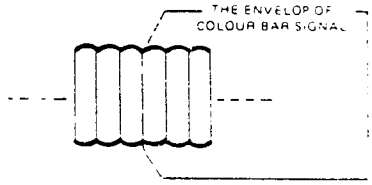


Fig. 10 SECAM Color Bar Signal

3. B-Y DEMODULATION
    (a) Apply a SECAM color bar signal to the input.
    (b) Connect an oscilloscope to TP29 (Pin 3 of IC1401).
    (c) Adjust L1404 to obtain a B-Y signal with correct chrominance output, as shown in Fig. 11.

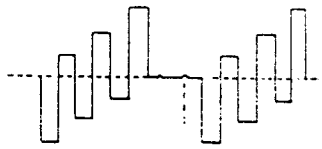


Fig. 11 B-Y Signal

4. R-Y DEMODULATION
    (a) Apply a SECAM color bar signal.
    (b) Connect an oscilloscope to TP28 (Pin 1 of IC1410).
    (c) Adjust L1402 to obtain an R-Y signal with correct chrominance output, as shown in Fig. 12.

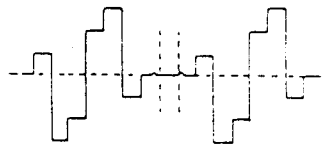


Fig. 12 R-Y Signal

COLOR PURITY AND CONVERGENCE ADJUSTMENT

1. COLOR PURITY ADJUSTMENT

NOTE: Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes.

(a) Demagnetize the picture tube and cabinet using a degaussing coil.
(b) Turn the contrast and brightness controls to maximum.
(c) Adjust Red and Blue controls (VR503) and (VR505); to provide only a green raster. Advance the Green Bias Control (VR504) if necessary.
(d) Loosen the clamp screw holding the yoke backward to provide vertical green belt (Zone) in the picture screen.
(e) Remove the Rubber Wedges.
(f) Rotate and spread the tabs of the purity magnet (See Fig. 13) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, center the raster vertically.
(g) Move the yoke slowly forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
(h) Check the purity of the red and blue raster by adjusting the bias controls.
(i) Obtain a white raster, referring to white balance adjustment.
(J) Proceed with convergence adjustment.

2. CONVERGENCE MAGNET ASSEMBLY POSITIONING

Convergence Magnet Assembly and Rubber Wedges need mechanical positioning following Fig. 13.

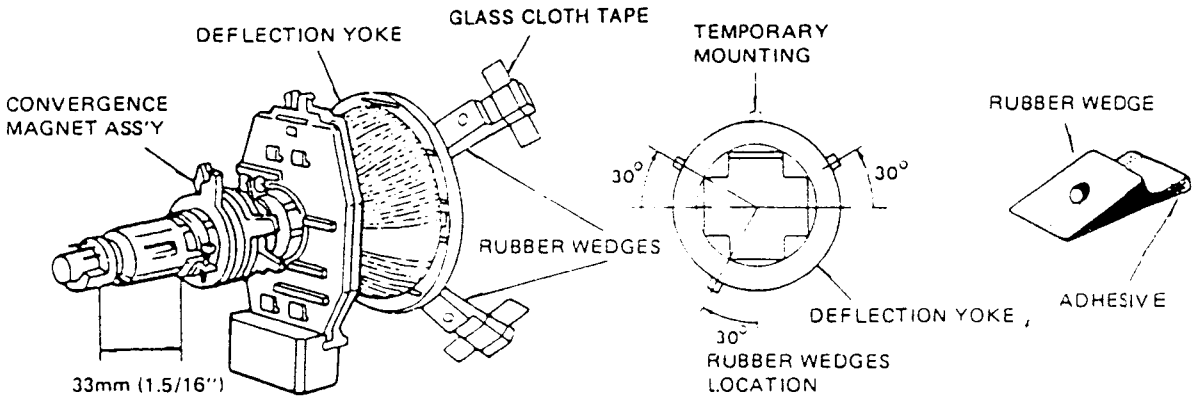


Fig. 13

3. CENTER CONVERGENCE ADJUSTMENT

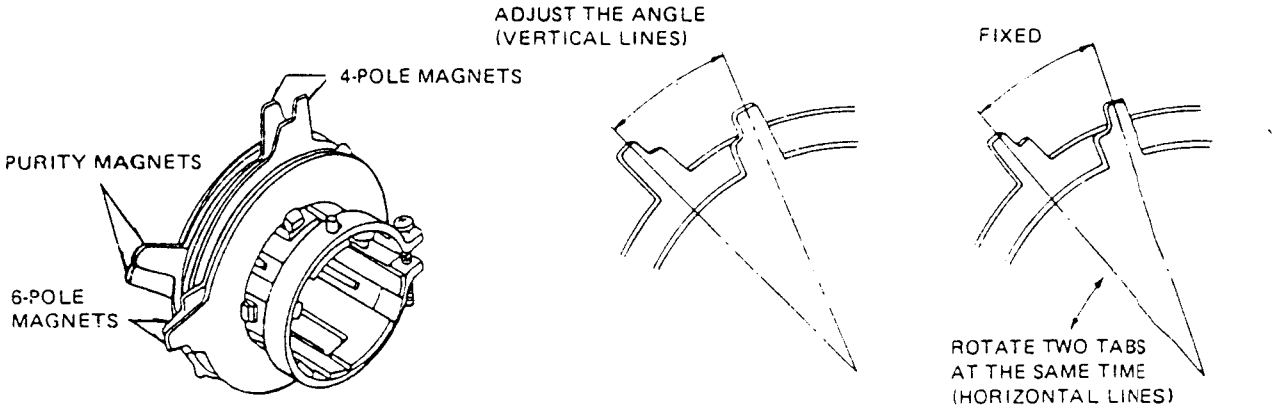
NOTE: Before attempting any convergence adjustments, the receiver should be operated for at least fifteen minutes.

(a) Receive crosshatch pattern with a color bar signal generator.
(b) Adjust the brightness and contrast controls for well defined pattern.
(c) Adjust two tabs of the 4 Pole Magnets to change the angle between them (See Fig. 14) and superimpose red and blue vertical lines in the center area of the picture screen. (See Fig. 15).
(d) Turn both tabs at the same time keeping the constant angle to superimpose red and blue horizontal lines at the center of screen. (See Fig. 15).
(e) Adjust two tabs of 6 Pole Magnets to superimpose red/blue line with green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
(f) Repeat adjustments 3, 4, 5, keeping in mind red, green and blue movement, because 4 Pole Magnets and 6 Pole Magnets interact and make dot movement complex.

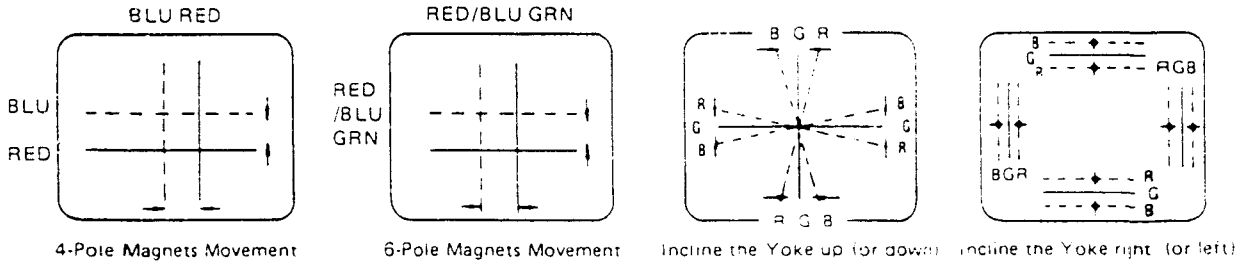
4. CIRCUMFERENCE CONVERGENCE ADJUSTMENT

NOTE: This adjustment requires Rubber Wedges and Glass Cloth Tapes.

(a) Loosen the clamping screws of deflection yoke to allow the yoke to tilt.
(b) Place a wedge as shown in Figure 14 temporarily. (Do not remove cover paper on adhesive part of the wedge).
(c) Tilt front of the deflection yoke up or down to obtain better convergence in circumference. (See Fig. 15). Push the mounted wedge into the space between picture tube and the yoke to hold the yoke temporarily.
(d) Place other wedge into bottom space and remove the cover part to stick.
(e) Tilt front of the yoke right or left to obtain better convergence in circumference. (See Fig. 15).
(f) Hold the yoke position and put another wedge in either upper space, remove cover paper and stick the wedge on picture tube to hold the yoke.
(g) Detach the temporarily mounted wedge and put it in another upper space. Stick it on picture tube to fix the yoke.
(h) After placing three wedges, recheck over all convergence. Tighten the screw firmly to hold the yoke tightly in place.
(i) Stick 3 grass cloth tapes on wedges as shown in Figure 13.



CONVERGENCE MAGNET ASSEMBLY Fig. 14 ADJUSTMENT OF MAGNETS

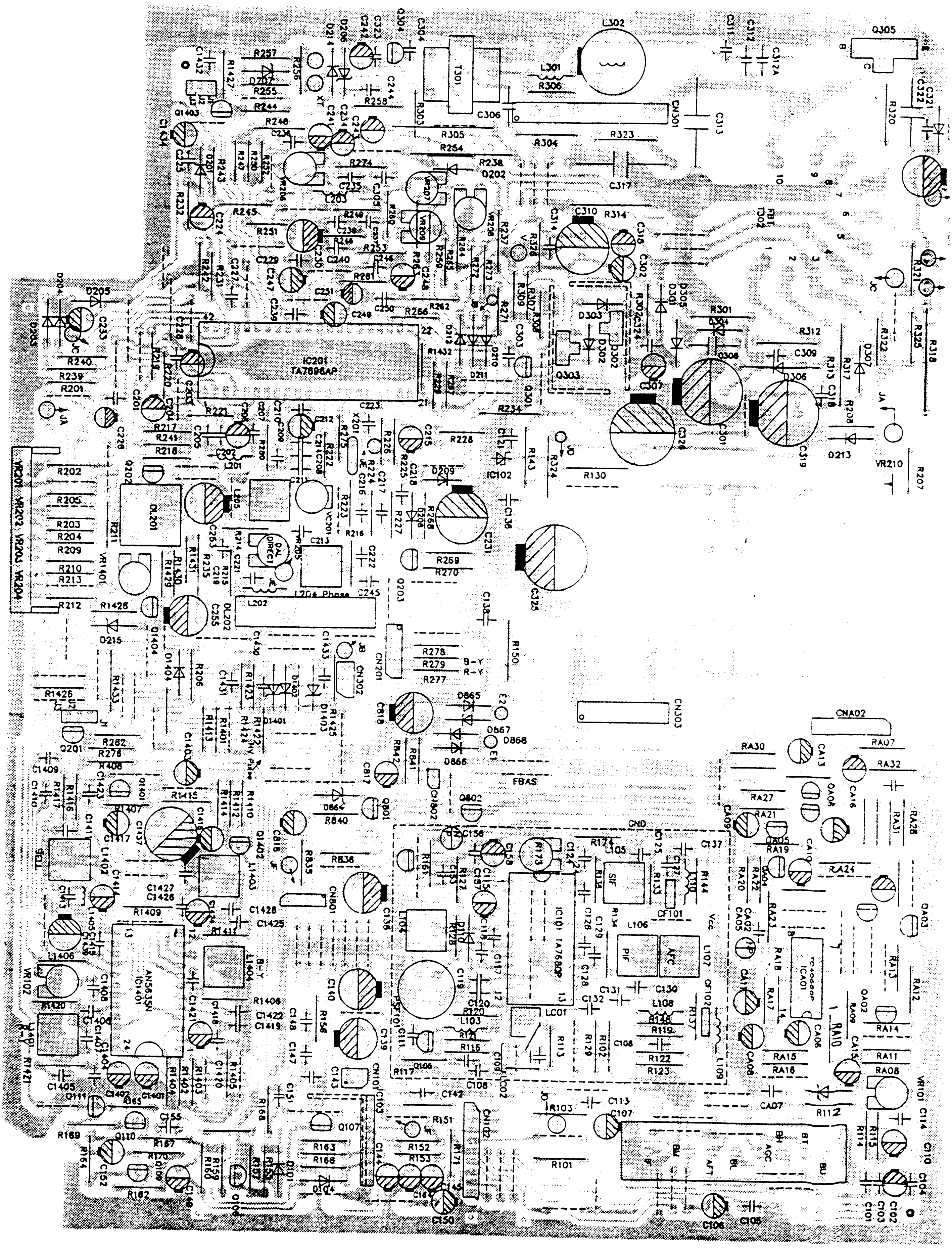


4-Pole Magnets Movement 6-Pole Magnets Movement Incline the Yoke up (or down) Incline the Yoke right (or left)

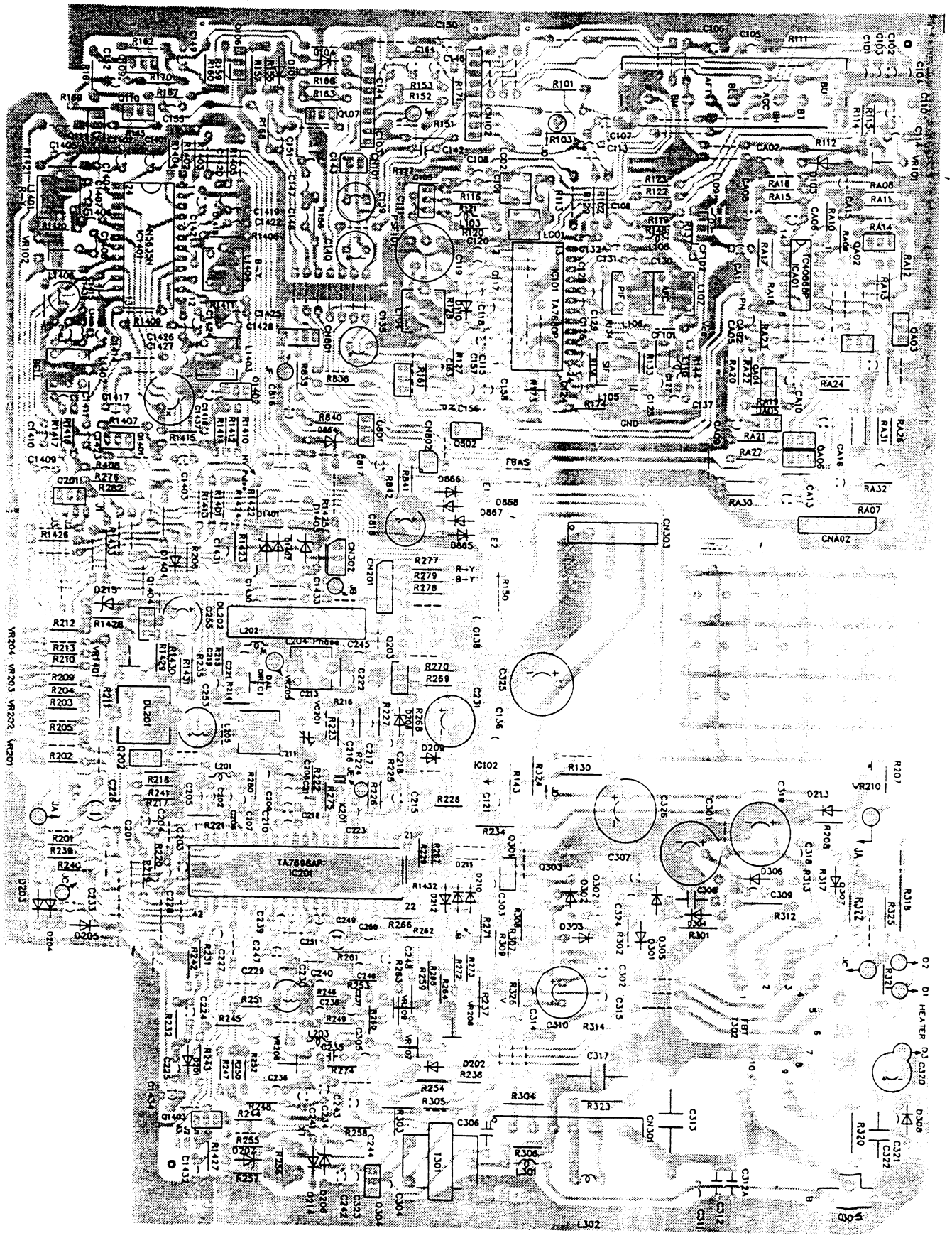
Center Convergence by Convergence Magnets Circumference Convergence by DEF Yoke

Fig. 15 Dot Movement Pattern

COMPONENT VIEW OF MAIN BOARD

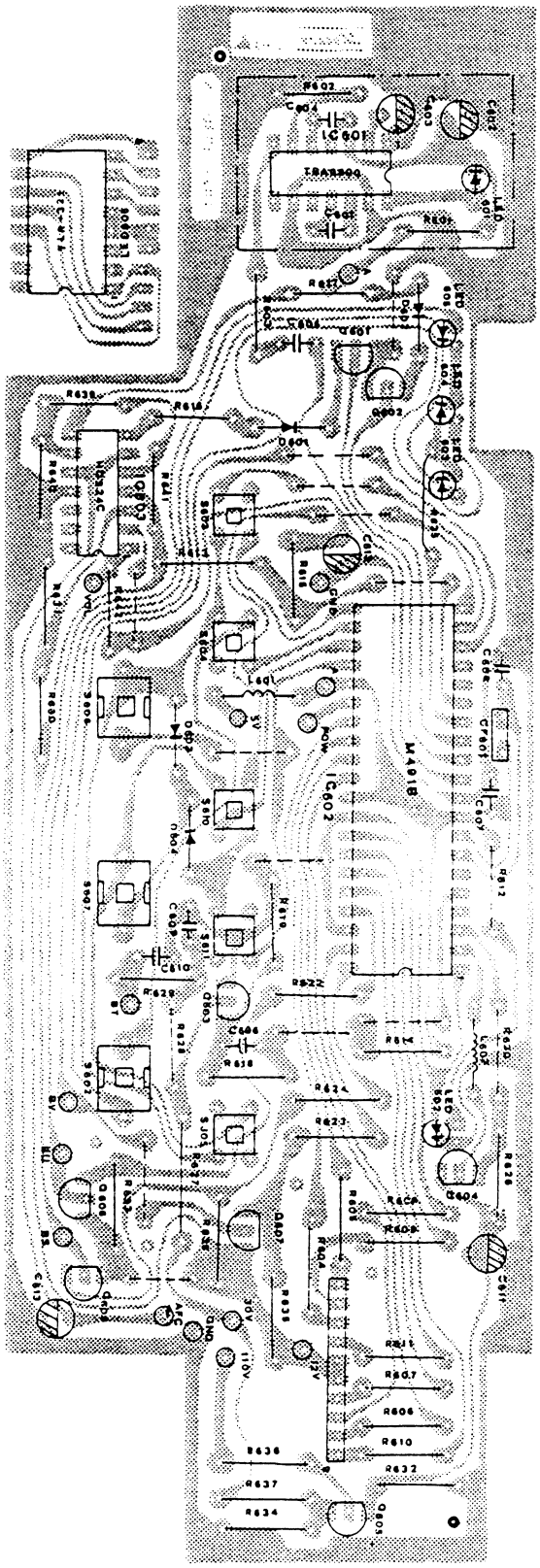


BOTTOM VIEW OF MAIN BOARD

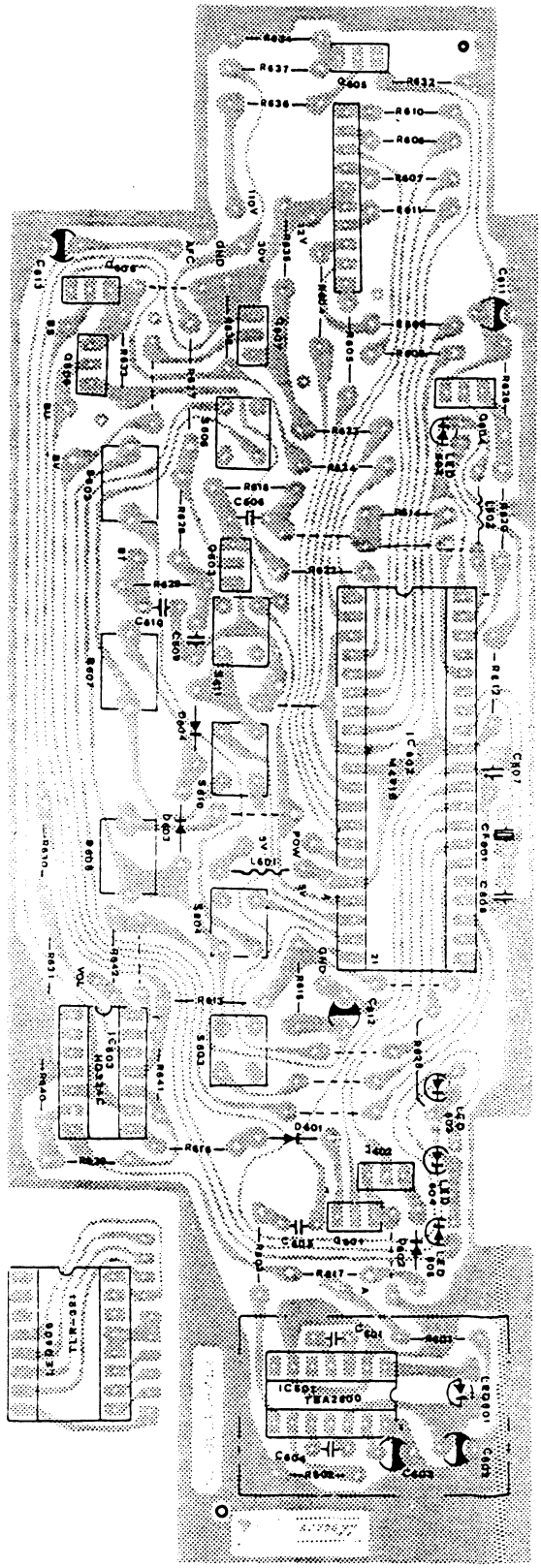


COMPONENT VIEW OF CONTROL BOARD

(For 14" only)

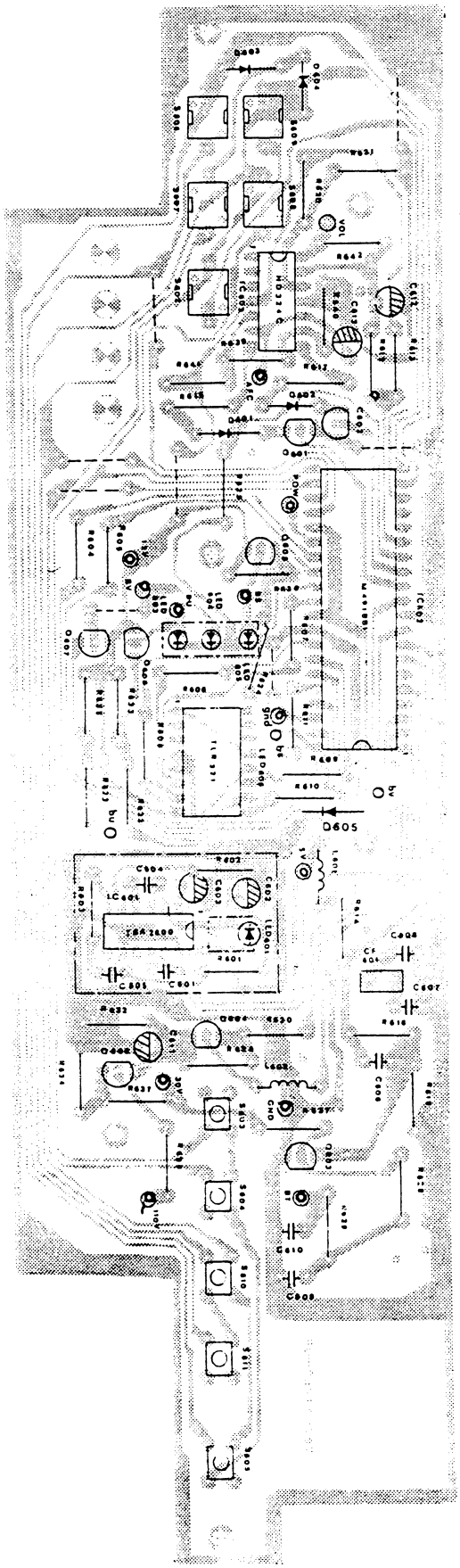


BOTTOM VIEW OF CONTROL

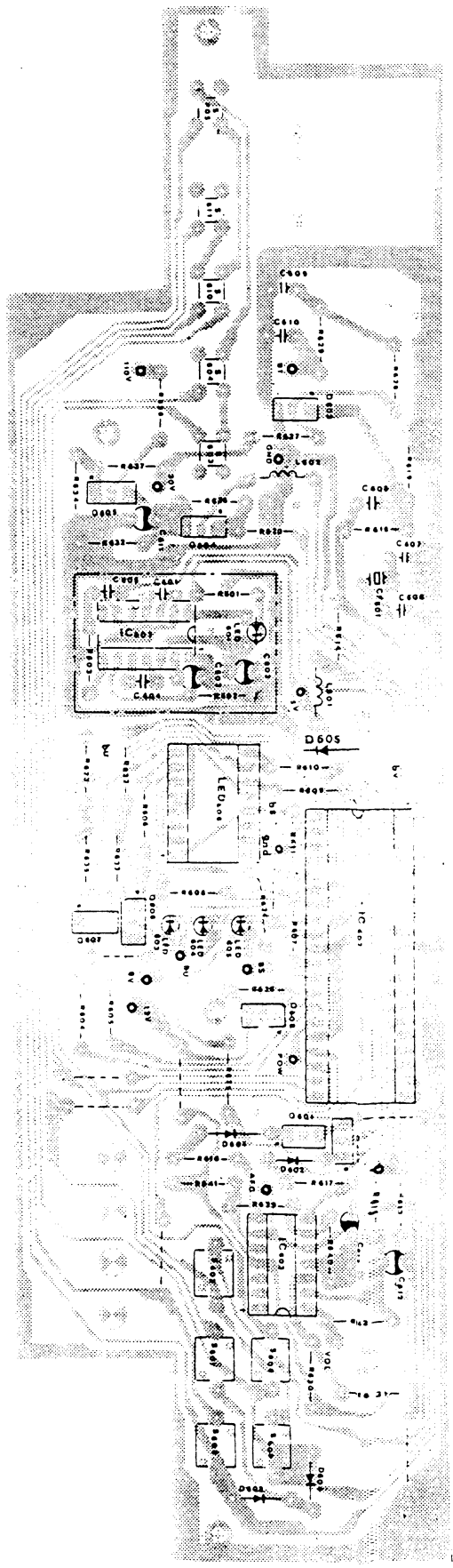


COMPONENT VIEW OF CONTROL BOARD

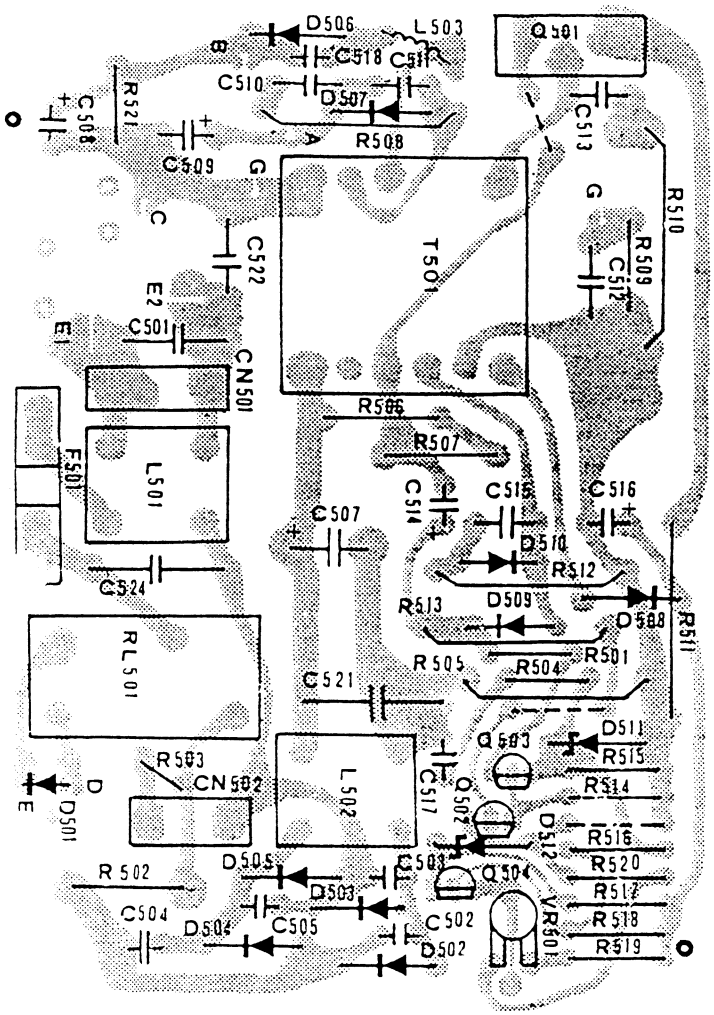
(For 20" only)



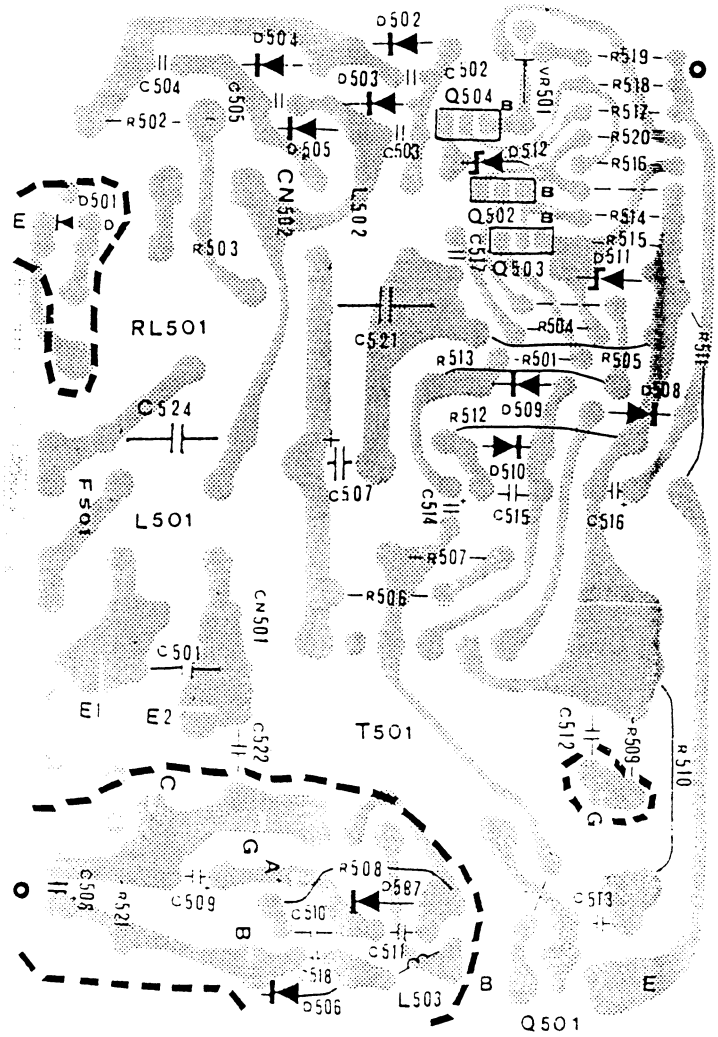
BOTTOM VIEW OF CONTROL BOARD



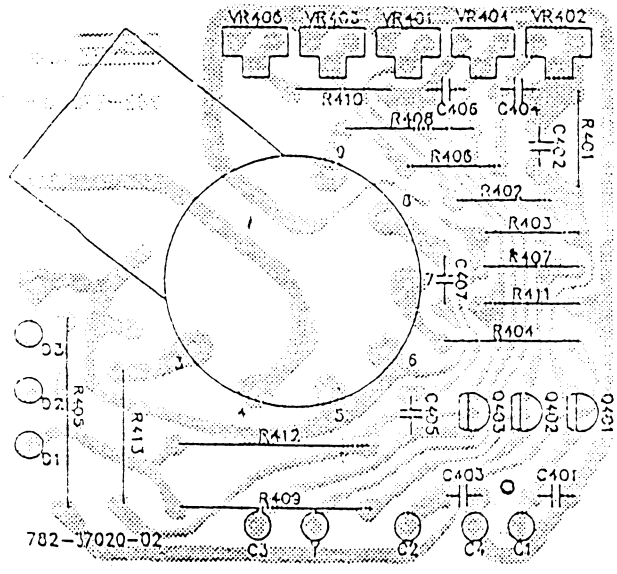
COMPONENT VIEW OF POWER BOARD



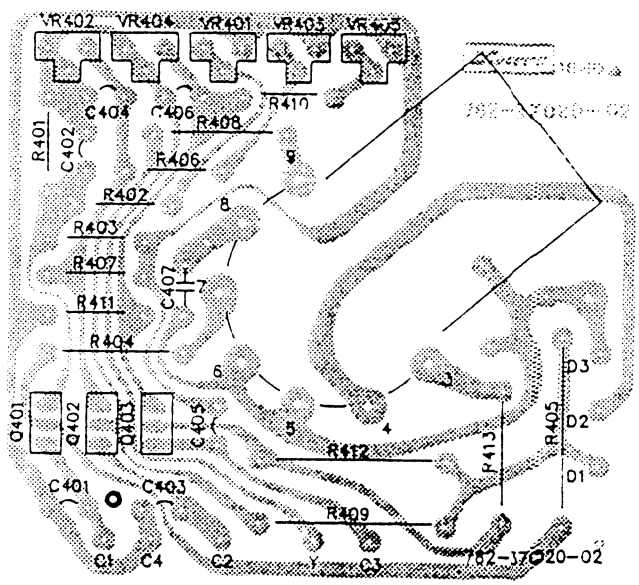
BOTTOM VIEW OF POWER BOARD



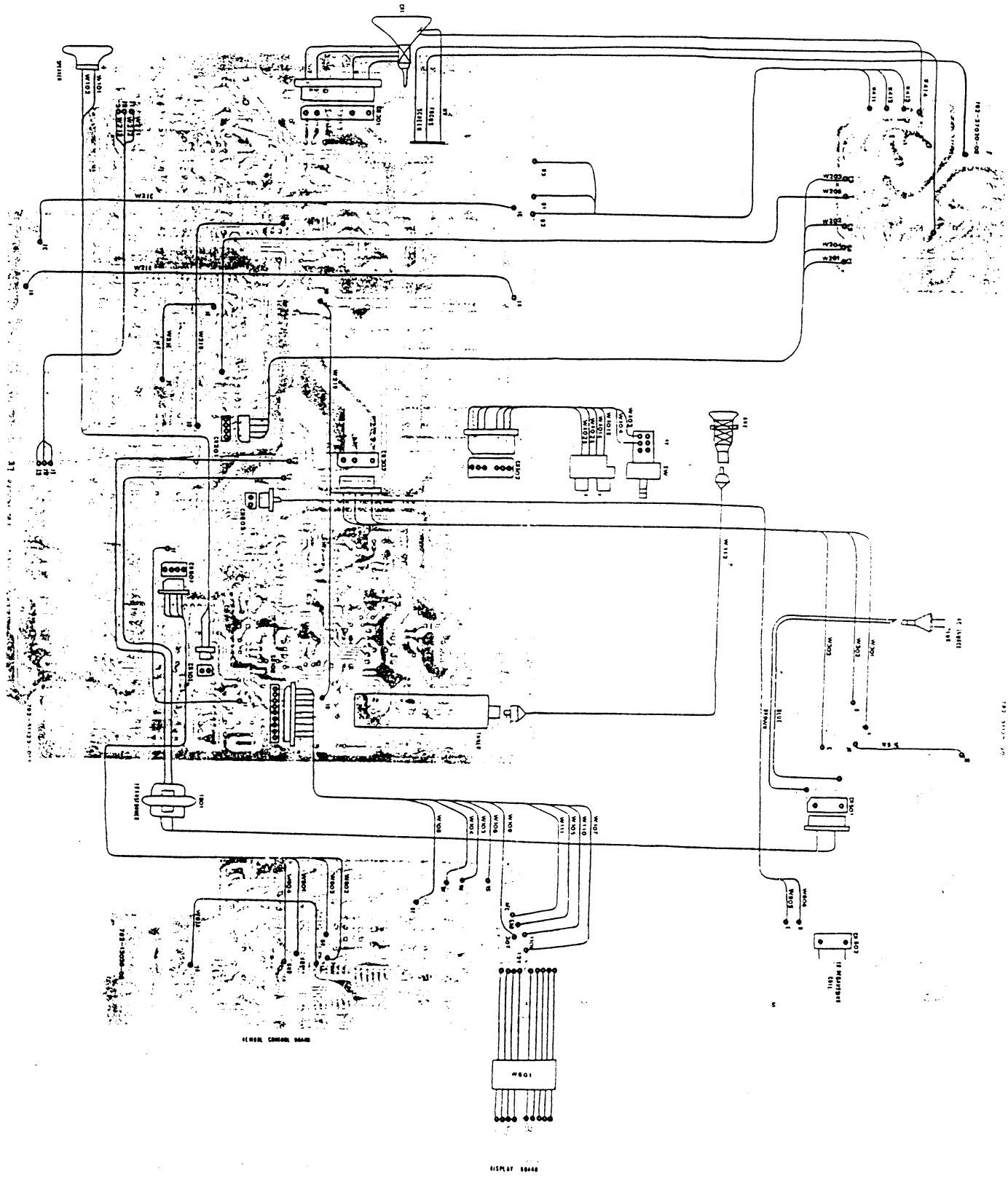
COMPONENT VIEW OF CRT BOARD



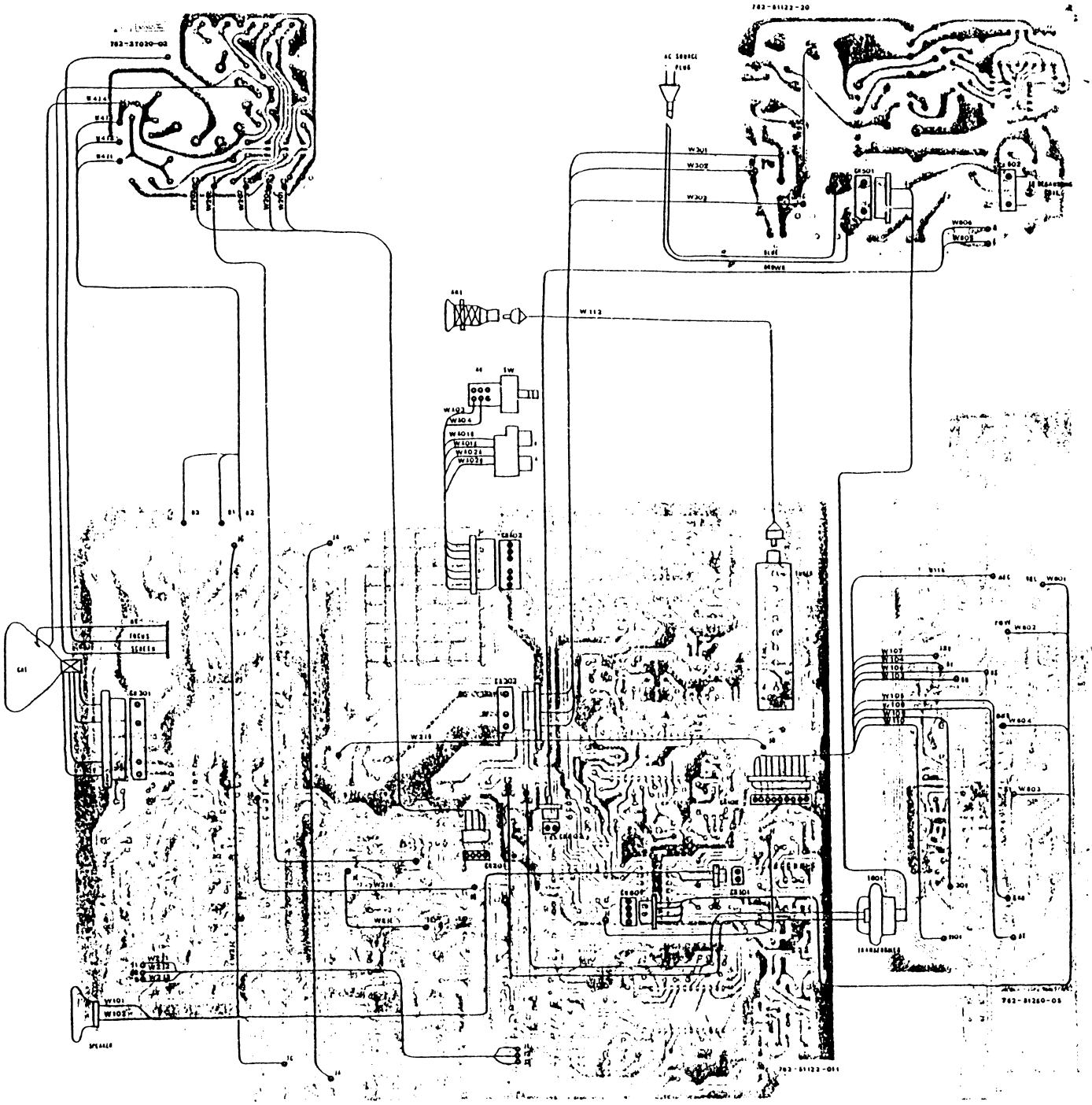
BOTTOM VIEW OF CRT BOARD



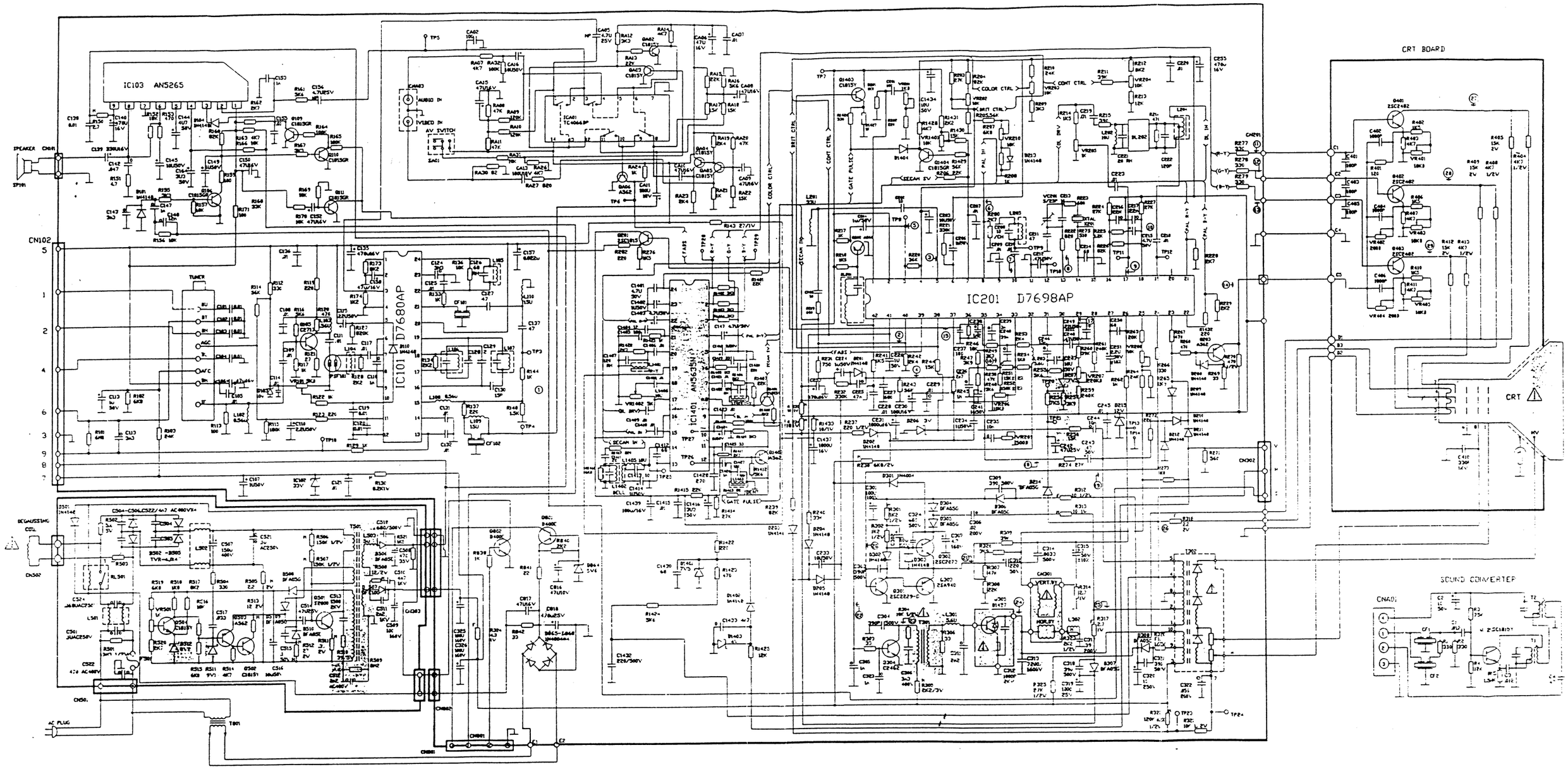
WIRING DIAGRAM FOR

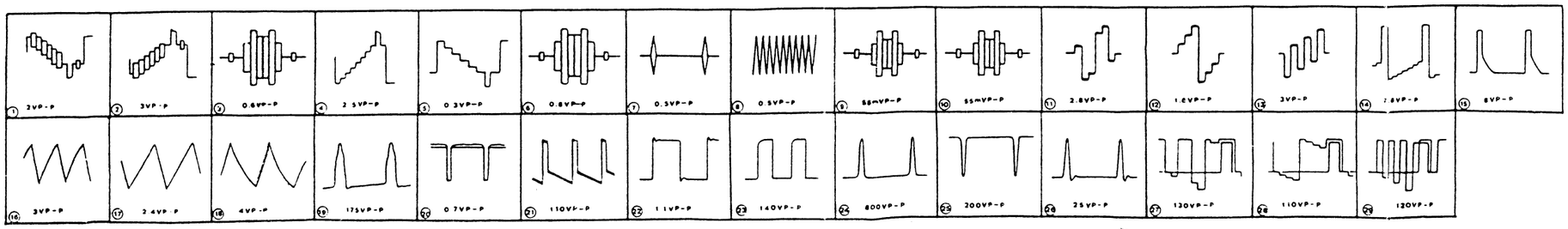


WIRING DIAGRAM FOR 20" MODEL

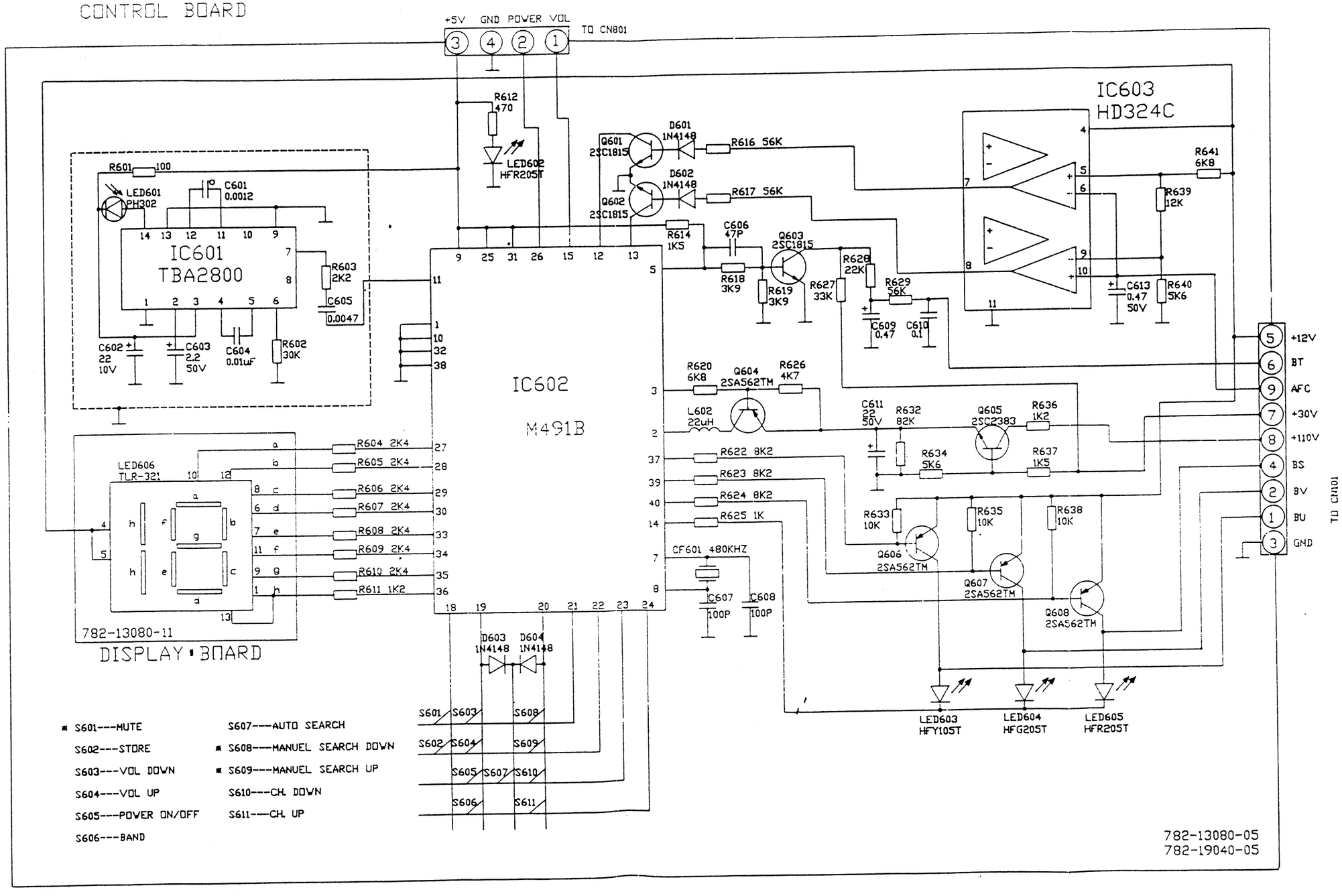


SCHEMATIC DIAGRAM





CONTROL BOARD



IC103 AN5265

VPOWER OUT GND VOL MUTE VCC +12V

SPEAKER CN101 SP101

CN102

+12V

BU-UHF

BU-UHF H

BL-UHF L

BT

AFC

+110V

+30V

TUNER

BU BT BH AGC BL AFC BM IF

IC101 D7680AP

AUDIO OUT AUDIO GND PIF PIF RF AGC DELAY RF AGC OUT PIF GND

VOLUME

SIF DET

SIF INPUT

VIDEO

VIDEO OUT AFC OUT 2 AFC OUT 1

IC1401 AN5635N

FABS TP28 R-Y G-Y B-Y TP29

COLOR CTRL BRIT CTRL

PAL R-Y PAL B-Y SECAM SW DL DRV DL IN PAL IN SECAM IN BELL GATE PULSE

DEGAUSSING COIL CN502

D502–D505 1N4004m4

AC400V4×4

RL501

D506 DFA05E D508 DFA05G

Q801 D400E Q802 D400E

Q1401 C1815Y Q1402 A562 Q201 2SC1815 QA06 A562 Q105 C2717 Q106 C1815GR Q107 C1815Y Q109 C1815GR Q110 C1815GR Q111 C1815GR

D101 1N4148 D103 10V D104 1N4148 D110 1N4148 D203 1N4148 D501 1N4148 IC102 33V D1401 7V5 D864 5V6

CF101 5,5MHz CF102 5,5MHz

L102 µ56 L103 µ56 L104 L105 L106 L107 L108 µ56 L110 15U L1401 R-Y L1402 BELL L1403 L1405 10U L109 15U

TP3 TP4 TP18 TP25 TP26 TP27

CRT BOARD

782 51010 02

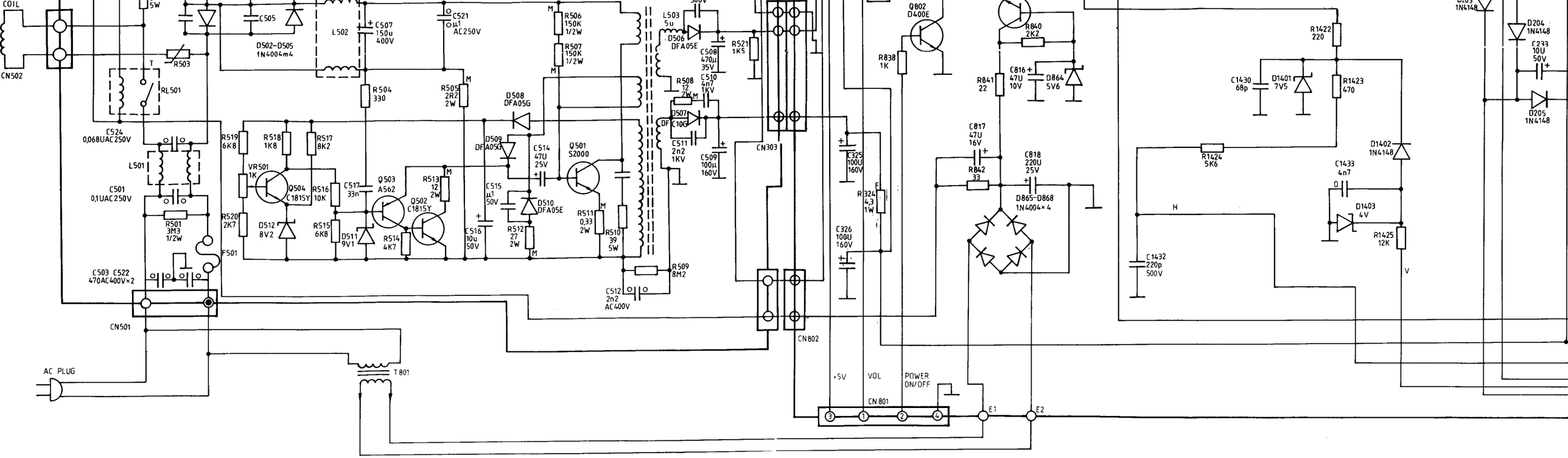
IC201 D7698AP VIDEO/CHROMA/DEF

	C501	C502	C503	J504	R503	R504	R516	R518	R520	L603	C613	R625	R805
14"	270	270	270	—	1800	470	3300	3300	3300	6,8u	7500	1,8	1,8
16"	270	270	270	—	1800	470	3300	3300	3300	Short	7500	1,8	1,8
20"	470	470	470	Short	2000	180	2200	2200	2200	Short	8200	0,82	1,2

206-51252

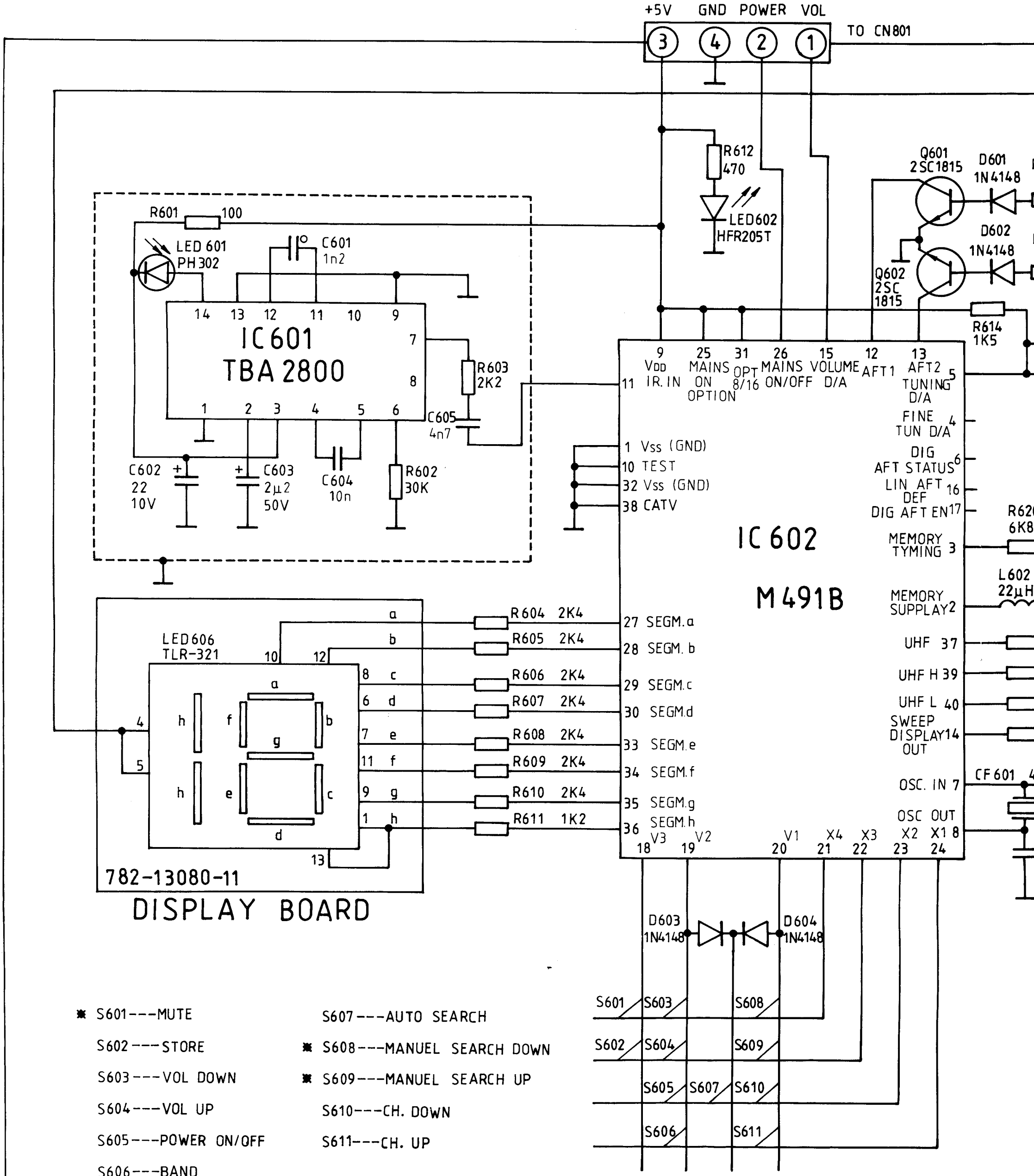
D203 1N4148
D204 1N4148
C233 10U 50V
D205 1N4148
R302 1K2 1/2W
C302 10u/50V
680 500V
C307 4n7 160V
C303 390P 500V
D302 1N4148
D303 1N4148
Q302 2SC2073
Q301 2SC2229-D
Q303 2SA940
R309 39K
R326 3K9
C310 220µ 50V
R307 47K
R308 22K
C315 2µ2 50V ±10%
CN301
VERT. DY
HOR. DY
R314 2,7 1W
Q305 D1427
L302
R317 2,7 1W
R323 2K2 1/2W
C317 39p 200V
C304 390P 500V
R304 10K 1/2W
T301
L301 5,6U
R303 33
R306 33
C311 2n2
C305 1n
C323 1n
Q304 C2482
C306 3n3 400V
R305 2K2 3W
C312 1000P 2KV
C313 7n2 1600V
C318 390p 500V
C319 1000µ 25V
D307 OF A05G
R325 2,7K 1/2W
D308 OF A05G
R320 F10 1/2W
C321 390p 500V
C320 10U 250V
C322 56n 200V
R322 120K ±2% 1/2W
R321 10K 1/2W
TP23
TP24
R318 2R2 2W

P-P	⑨	H ⑩ 55mVP-P	H ⑪ 2,8VP-P	H ⑫ 1,6VP-P	H ⑬ 3VP-P	H ⑭ 7,8VP-P	H ⑮ 8VP-P	⑯ 3VP-P	
VP-P	H ㉕ 200VP-P	H ㉖ 25VP-P	㉗	㉘	㉙	H ㉛ 130VP-P	H ㉜ 110VP-P	H ㉝ 120VP-P	



H ① 2VP–P	H ② 3VP–P	H ③ 0,6VP–P	H ④ 2,5VP–P	H ⑤ 0,3VP–P	H ⑥ 0,8VP–P	H ⑦ 0,3VP–P	H ⑧ 0,5VP–P	⑨
V ⑰ 2,4VP–P	V ⑱ 4VP–P	H ⑲ 175VP–P	V ⑳ 0,7VP–P	V ㉑ 110VP–P	H ㉒ 1,1VP–P	H ㉓ 140VP–P	H ㉔ 800VP–P	H ㉕ 200VP

CONTROL BOARD



✱ S601---MUTE

S602---STORE

S603---VOL DOWN

S604---VOL UP

S605---POWER ON/OFF

S606---BAND

S607---AUTO SEARCH

✱ S608---MANUEL SEARCH DOWN

✱ S609---MANUEL SEARCH UP

S610---CH. DOWN

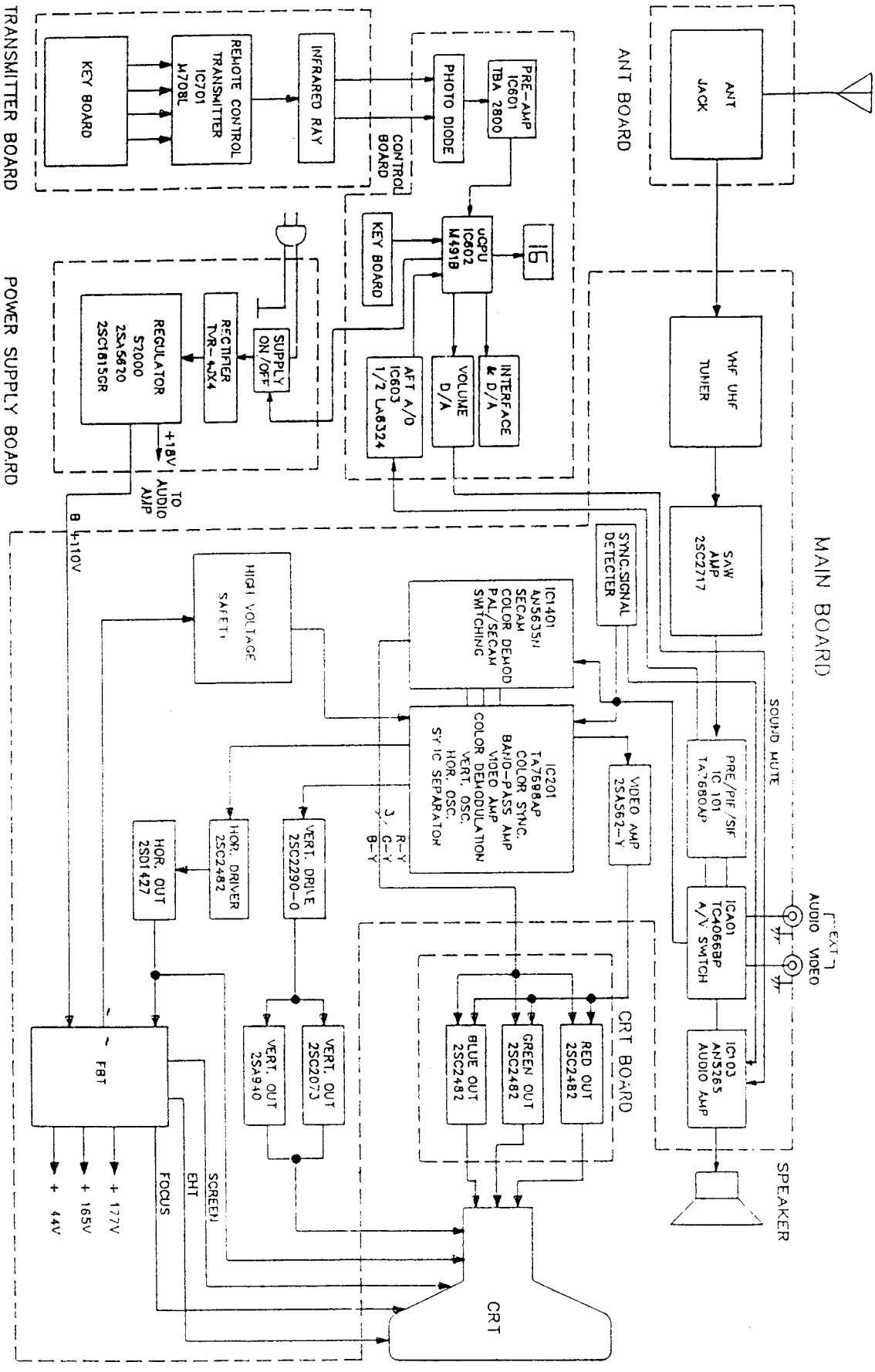
S611---CH. UP

IC 603
HD 324C

D601
1N4148
R616
56K
D602
1N4148
R617
56K
R614
1K5
C606
47P
Q603
2SC1815
R618
3K9
R619
3K9
R627
33K
R628
22K
R629
56K
C609
µ47
C610
µ1
R641
6K8
R639
12K
C613
µ47
50V
R640
5K6
R620
6K8
Q604
2SA562TM
R626
4K7
L602
22µH
Q605
2SC2383
R636
1K2
R637
1K5
C611
22µ
50V
R632
82K
R634
5K6
R622 8K2
R623 8K2
R624 8K2
R625 1K
R633
10K
R635
10K
R638
10K
Q606
2SA562TM
Q607
2SA562TM
Q608
2SA562TM
CF601 480KHZ
C607
100P
C608
100P
+12V
BT
AFC
+30V
+110V
BL
BV
BU
GND
TO CN101
LED 603
HFY105T
LED 604
HFG205T
LED 605
HFR205T

782-13080-05
782-19040-05

BLOCK DIAGRAM



WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

CAUTION: The shaded areas marks in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

ELECTRICAL PARTS LIST FOR MAIN BOARD

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
	782-51122-01	MAIN PCB	1
		CRYSTAL	
X201	329-44501-09	JA18 4.433MHZ	1
		DIODE	
D101, 104, 302 D201, 202, 208-213, D1402, 1404	340-00001-0H3	1N4148	13
D303, 203-205, 110	340-00001-0H	1N4148	5
D301, 865-868	340-00008-0H3	1N4004	5
D214, 304-307	340-00005-0H3	S5295J	5
D308	340-00005-0H	S5295J	1
D207, 1401	340-50005-1H	HZ7C2	2
D215	340-50001-0H	HZ12A2	1
D206	340-50026-04	HZ3B2 (For 20" Model)	1
D206	340-50035-06	GZA3.0Y (For 14" Model)	1
D1403	340-50021-04	HZ4B2	1
D103	340-50006-0H	HZ11A3 (For 14" Model)	1
D864	340-50008-04	HZ6B3	1
		TRANSISTOR	
Q304	343-22482-07	2SC2482 (hfe: 80-120)	1
Q105	343-22717-00	2SC2717 TPE1	1
Q106, 109-111 Q404	343-21815-704	2SC1815-GR	5
Q201, A02-A05 Q1401, 1403	343-21815-10	2SC1815-Y	7
Q301	343-22229-60	2SC2229-0	1
Q202-203 Q1402, QA06	343-10562-604	2SA562TM-0	4
Q305	343-31427-00	2SD1427	1
Q303	343-10546-07	B546A (hfe: 60-120)	1
Q302	343-20401-07	D401A (hfe: 80-140)	1
Q801-802	343-30400-32	2SD400E/F	2

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
		INTEGRATED CIRCUIT	
IC101	352-77680-16	TA680AP	1
IC201	352-77698-16	TA7698AP	1
IC102	352-50574-0H	uPC574	1
IC103	352-25265-00	AN5265	1
ICA01	352-74066-66	TC4066BP	1
IC1401	352-25635-90	AN5635N	1
		CONNECTOR	
665-75401-01	364-37201-92	5264-07 (HOUSING)	1
CN802, 101	364-32101-92	5267-02A	2
CN801	364-34101-92	5267-04A (HEADER)	1
CN201	364-35101-92	5267-05A (HEADER)	1
CNA02	364-37101-92	5267-07A (HEADER)	1
CN301	364-36101-0G	CT5-6S	1
CN303	364-33101-91	W-P3003 (HEADER)	1
470-30028-01B	364-33201-91	W-A5003-1N (HOUSING)	1
Y.V.XT	775-60054-00	RT-01N-2.3A (HEADER)	4
		SAW FILTER	
PSF101	458-00006-01	F1037B	1
		CERAMIC DISC CAP.	
C128, 129	459-02015-11	RAU04CH020C-6H46UA	2
C202, 213, 1413	459-10017-21	RAU04RH-100D-K46GA	3
C1404	459-12012-11	RAU04CH-120J-L05AC	1
C130	459-15012-11	RAU04CH-150J-K46CA	1
C205	459-18012-1B	CC1-06-C-63V-18PF-J	1
C1411, 221	459-20012-21	RAU05RH-200J-K46CA	2
C1419, 1425	459-33012-11	RAU05CH-330J-L05AC	2
C127, 137, 211	459-47012-41	RAU06SH-470J-L45AC	3
C126, 214, 250, 1430	459-68012-11	RAU08CH-680J-L45AC	4
C222	459-82012-11	RAU08CH820J-L45AC	1
CA02	459-10112-11	RAU08CH-101J-L45AC	1
C1407, 1422, 1427	459-12112-26	DD108-959RH121J50	3
C201, 237, 1405	459-18112-91	RAU08SL181J-L45AC	3
C1420	459-22112-96	DD107-959SL221J50	1
C1420	459-27112-96	DD107-959SL271J50	1
C227	459-68112-41	RAU08SA681J-H46CA	1
C101-105, 108, 119-121 C111, 114, 117, 131, 132 C136, 1406, 1408-1410 C1421, 1423, A07, 109 C130, 125, 155, 207, 209 C210, 218, 219, 223, 245 C1415	459-10316-81	ROU06F103Z-H46CA	34
C1432	459-22143-11	RQC06B221K-L46UA	1
C303, 304, 309, 318, 321	459-39143-06	DD05-989B391K500	5
C324	459-68143-06	DD06-999B681K500	1
C314	459-33243-06	DD11-959B332K500	1
C312	459-10263-4W	Y5P102K2	1

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
NON-INDUCTIVE POLYESTER CAP.			
C239	462-30211-10	CL12-63V-0.003uf ± 5%	1
C236	462-27211-10	CL12-63V-0.0027uf ± 5%	1
C225	462-47311-10	CL12-63V-0.047uf ± 5%	1
C246, 228	462-15311-10	CL12-63V-0.015uf ± 5%	2
C216, 217, 157	462-22311-10	CL12-63V-0.022uf ± 5%	3
POLYESTER CAP.			
C305, 323, 1426	462-10212-00	CL11-63V-0.001uf-K	6
C118, 147, 153			
C238	462-12212-00	CL11-63V-0.0012uf-K	1
C311	462-22212-00	CD11-63V-0.0022uf-K	1
C124, 143, 113	462-33212-00	CL11-63V-0.0033uf-K	3
C1433	462-47212-00	CL11-63V-0.0047uf-K	1
C244, 235, 229	462-10312-00	CL11-63V-0.01uf-K	3
C148	462-12312-00	CL11-63V-0.012uf-K	1
C240	462-39312-00	CL11-63V-0.039uf-K	1
C142	462-47312-00	CL11-63V-0.047uf ±10%	1
NON-INDUCTIVE POLYPROPYLENE CAP.			
C308	462-20341-50	CBB12-200V-0.02uf-J	1
C322	462-56342-50	CBB12-200V-0.056uf-K	1
C317	462-39441-81	CBB22-200V-0.39uf-J	1
C306	462-33262-50	CBB12-400V-0.0033uf-K	1
C313	462-72291-50	CBB12-1600V-0.0072uf-J	1
ALUMINIUM ELECTROLYTIC CAP.			
C115	464-22450-002	CD11L-50V-0.22uf ±20%	1
C243, 248, 212	464-47450-002	CD11L-50V-0.47uf ± 20%	3
C224	464-10550-00	1uf	1
C107, 149, 206, 226, 234	464-10550-002	CD11L-50V-1uf ± 20%	11
C241, 1414, 1402, 1418,			
C1424, 204			
C110	464-22550-00	CD11L-50V-2.2uf ± 20%	1
C164. 1416	464-33550-00	CD11L-50V-3.3uf ± 20%	2
C144, 215, 1403	464-47550-002	CD11L-50V-4.7uf ± 20%	5
C1401, 1417			
C145, A16, 203, 233	464-10650-002	CD11L-50V-10uf ± 20%	7
C1434, 247, 302			
C310	464-22750-00	CD11L-50V-220uf ± 20%	1
C106, A15, A10, 816, 817	464-47620-002	CD11L-16V-47uf ± 20%	6
C158			
C150, A06, A08, A09, 152	464-47620-00	CD11L-16V-47uf ± 20%	5
C230, 1439	464-10720-00	CD11L-16V-100uf ± 20%	2

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
C139	464-33720-00	CD11L-16V-330uf ± 20%	1
C231, 1437	464-10820-00	CD11L-16V-1000uf ± 20%	2
CA11, A13	464-10710-00	CD11L-10V-100uf ± 20%	2
C135, 140, 253, 255	464-47720-00	CD11L-16V-470uf ± 20%	4
C242	464-47630-002	CD11L-25V-47uf ± 20%	1
C818	467-22730-00	CD11L-25V-220UF ± 20%	1
C319	464-10830-00	CD11L-25V-1000uf ± 20%	1
C301	464-10770-00	CD11L-100V-100uf ± 20%	1
C307	464-47580-00	CD11L-160V-4.7uf ± 20%	1
C325, 326	464-10780-00	CD11L-160V-100uf ± 20%	2
C320	464-10690-00	CD28-250V-10uf-M	1
NON-POLARITY ELECTROLYTIC CAP.			
C156, A05	464-47530-30	CD11W-4.7uf-25V ± 20%	2
TANTALUM ELECTROLYTIC CAP.			
C251, 315	464-22555-2B	CA42-50V-2.2uf ± 10%	2
C249	464-22455-2B	CA42-50V-0.22uf ±10%	1
VARIABLE CAP.			
VC201	465-27001-04	CMW13-4/27 pf	1
C208	466-15123-13	C14-100V-150PF-K	1
CARBON FILM RESISTOR			
R835	467-10017-11	RT13M-0.25W-10Ω ±5%	1
R151	467-47917-11	4.7Ω	1
R841	467-22017-113	22Ω	1
R269, 330, 306, 842	467-33017-113	33Ω	1
R121	467-27017-113	27Ω	1
RA30, 1413	467-82017-113	82Ω	2
R113, 171	467-10117-113	100Ω	2
R159	467-10117-11	100Ω	1
R123, 119, 202 R1422, 1417	467-22117-113	220Ω	5
R282	467-22117-11	220Ω	1
R1426, 277-279, 137 R266	467-33117-113	330Ω	6
R112	467-33117-11	330Ω	1
R120, 153, 216, 267, 268 R1423, 271	467-47117-113	470Ω	7
R219, 223	467-68117-113	680Ω	2
R215	467-39117-113	390Ω	1
R275	467-51117-11	510Ω	1
R231	467-75117-11	750Ω	1
R222, A27	467-82117-113	820Ω	2
R117, 122, 208, 838 R129, 133, 144, 217 RA24, A21 R262, 1421 R1427	467-10217-113	1KΩ	13
R1432	467-22117-11	220KΩ	1
R225, 1405, 174	467-12217-11	1.2KΩ	3

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
R148, 214, 218, 241, 276	467-15217-113	1.5KΩ	5
R201,254,273	467-18217-11	1.8KΩ	3
R128, 134, 229, 840 R1406, 1408, 1431	467-22217-113	2.2KΩ	7
R242, 253, A19, A23	467-24217-113	2.4KΩ	4
R256	467-75217-11	7.5KΩ	1
R162, 228, 265, 280 R1411	467-27217-113	2.7KΩ	5
R1420	467-21217-11	2.7KΩ	1
R155, 167, 249, 209 R1410, A12, 1402-1404	467-33217-113	3.3KΩ	9
R163, A07 RA14, A26, 1428	467-47217-113	4.7KΩ	5
R247, 257	467-39217-113	3.9KΩ	2
R326	467-39217-11	3.9KΩ	1
R116, 161, 248, 255 RA16, 1412, 1424	467-56217-113	5.6KΩ	7
R207, 1416, 152	467-68217-113	6.8KΩ	3
R102	467-68217-11	6.8KΩ	1
R256	467-75217-11	7.5KΩ	1
R136, 156 R157, 166, 169, 170, 246 RA31	467-10317-11	10KΩ	8
R1425, 213	467-12317-113	12KΩ	2
RA17, A18, A22, 244, 258 R1430, 212	467-15317-113	15KΩ	7
R263	467-18317-113	RT13M-0.25W-18KΩ ± 5%	1
R206, 272, 308, A13, A15 R1401, 1407, 1415	467-22317-113	22KΩ	8
R210, 264, 103	467-24317-11	24KΩ	3
R203, 224, 227, 274 R1414	467-27317-113	27KΩ	5
R240	467-33317-11	33KΩ	1
R211, 260	467-39317-113	39KΩ	2
RA08, A11, A20, 307, 250	467-47317-113	47KΩ	5
R220	467-36317-113	36KΩ	1
R114, 243, 1429, 205, R309	467-56317-113	56KΩ	5
R204,226,239	467-82317-113	82KΩ	3
R160	467-82317-11	82KΩ	1
R164, A32, 165	467-10417-113	100KΩ	3
RA09, A10	467-12417-113	120KΩ	2
R221, 232	467-33417-113	330KΩ	2
R259	467-24417-113	240KΩ	1
R261	467-2417-11	240KΩ	1
R127	467-82417-113	820KΩ	1
R245	467-10517-11	1MΩ	1
R101	467-68517-11	6.8MΩ	1
R1409, 115	467-18417-11	180KΩ	2
R237, 270	467-47127-13	RT13M-0.5W-470Ω ± 5%	2
R321, 304	467-10327-13	10KΩ	2
R325	467-27327-13	27KΩ	1

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
METAL OXIDE RESISTOR			
R251	467-15316-28	RJ14-0.25W-15KΩ ± 2%	1
R252	467-15416-28	150KΩ	1
R301, 302	467-12227-24	RS1/2FB-1.2KΩ-JL (F=15) TYPED	2
R318	467-22947-24	RS2FB-2.2Ω-JL (F=25) (For 14" Model)	1
R323	467-22227-24	RS1/2FB-2.2KΩ-JL (F=15) TYPED	1
R322	467-15427-13	RT13M-0.5W-150KΩ ± 5% (For 14" Model)	1
R322	467-12426-24	RS1/2FB-120KΩ-GL	1
R150	467-27937-24B	RS1FB-2.7Ω-JL2 (F=15)	1
R314, 317	467-27937-24	RS1FB-2.7Ω-JL (F=20)	2
R235, 1433	467-10037-24B	RS1FB-10Ω-JL2 (F=15)	2
R143	467-27037-24B	RS1FB-27Ω-JL2 (F=15)	1
R234	467-18037-24B	RS1FB-18Ω-JL2 (F=15)	1
R130	467-82237-24B	RS1FB-8.2KΩ-JL2 (F=15)	1
R313	467-10037-38	RJ20-1W-10Ω-JL	1
R238	467-68247-24	RS2FB-6.8KΩ-JL (F=25)	1
R305	467-22257-24D	RSM3FB-2.2KΩ-JL (F=25)	1
FUSIBLE RESISTOR			
R312, 320	467-10027-45	FRN1/2-10Ω-JL	2
R324	467-43937-45	FRN1-4.3Ω-JL	1
R318	467-22947-4W	RF10-2W-2.2Ω-JL	1
POTENTIOMETER			
VR201, 204	468-10300-45	VK8-4R(4)PH-35U-B1K-B10K-B10K-B10K	1
VARIABLE RESISTOR			
VR209	468-50101-35	V8K4-11(1S)-500B	1
VR101, 1402	468-50201-35	V8K4-11(1S)-5KB	2
VR206, 208, 1401	468-10301-35	V8K4-11(1S)10KB	3
VR207	468-22401-35	V8K4-11(1S)-220KB	1
VR205	468-10202-0G	WI0911-2-1K-X	1
VR102	468-50301-31	WH112A-2-0.1-50KA	1
VR210	468-10301-81	WH112A-1-10KA	1
TRANSFORMER			
T801	470-30028-01B	E412004VA	1
T301	472-10001-0E	58-28135-01	1
T302	472-20001-9D	154-138N (For 14" Model)	1
T302	472-20002-09	KFS-60288 (For 20" Model)	1

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
		PEAK COIL	
L103	471-56830-21	SPT0305-R56M	1
L108	471-56830-24	LG1-A-0.56uH ± 20%	1
L203, 301	471-56920-24	LG1-A-5.6uH- ± 10%	2
L202, 1406	471-10020-21	SPT0305-100K	2
L1405	471-10020-11	EL0606SKI-100K	1
L109, 110	471-15020-24	LG1-A-15uH ± 10%	2
L201	471-33030-24	LG1-A-33uH ± 10%	1
		TRAP FILTER	
LC01	475-23101-08	LCT-2A31 31.9MHZ	1
LC02	475-24001-08	LCT-2A40 40.4MHZ	1
		CERAMIC FILTER	
CF101	475-15593-03	SFE5.5MB	1
CF102	475-25593-03	TPS5.5MB	1
		COIL	
L106, 107	477-50002-04	PIF/AFC	2
L104	477-70001-04	L3M10H(MS0) R22-E265X 5uH	1
L105, 1401, 1404, 205	477-60001-04	L4M10H(MS0) R22-E268X	
L1403		SECAM R-Y DET/B-Y DET.	5
		SECAM SYSTEM IDENT.	
L1402	477-D0201-04	BELL FILTER	1
L204	477-70702-04	MATCHING COIL	1
L302	477-00001-0J	SCH2049	1
		TUNER	
TUNER	590-60101-44	UVE33-W01	1
		DELAY LINE	
DL201	591-10001-02	05A18X	1
DL202	591-40006-09	YCS-EN645A11P	1
		FERRITE BEAD	
Q305E	666-10035-01	BF30-3.5x3x1.2	1

ELECTRICAL PARTS LIST FOR CONTROL BOARD

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
	782-13080-05	CONTROL PCB (For 14" Model)	1
	782-51250-05	CONTROL PCB (For 20" Model)	1
		DIODE	
D601-604	340-00001-0H	1N4148	4
D606	340-50037-0H	BZX55C24	1
LED601	340-20001-07	TPS703 (For 20" Model)	1
LED601	340-20001-08	PH302 (For 14" Model)	1
LED605	340-10006-21	HFR244D (For 20" Model)	1
LED605, 602	340-10008-21	HFR205 (For 14" Model)	2
LED604	340-10007-51	HFG244D (For 20" Model)	1
LED604	340-10021-51	HFG205 (For 14" Model)	1
LED603	340-10012-41	HFY144D (For 20" Model)	1
LED603	340-10010-41	HFY105 (For 14" Model)	1
LED606	340-30006-21	LED DISPLAY 2HSR2102L (For 20" Model)	1
LED606	340-30003-21	2HSR2102 (For 14" Model)	1
		TRANSISTOR	
Q601, 606-608	343-10562-60	2SA562TM-0 TPE1	4
Q601, 602, 603	343-21815-70	2SC1815GR	3
Q605	343-22383-60	2SC2383-0	1
		INTEGRATED CIRCUIT	
IC602	352-10491-6D	M491BB1	1
IC603	352-50324-55	uPC324C	1
IC601	352-12800-04	TBA2800	1
		SWITCH	
S603, 604, 605, 610, 611	360-10002-07	SOA-121HS R66-3753	5
S602, 606, 607, 608, 609	360-10006-1N	KPT-1106	5
		CERAMIC DISC CAPACITOR	
C606	459-47012-41	RAU06SH470J-L45AC	1
C607, 608	459-10112-11	RAU08CH101J-L45AC	2
C605	459-47216-7B	CT1-08-2E4-63V-4700PF-Z	1
C604	459-10316-81	ROV06F103Z-L45AC	1
C610	466-10415-36	CT4-50V-0.1uf-(+)80%(-)20%	1
		POLYESTER CAPACITOR	
C601	462-12201-00	CL11-50V-0.0012uf- ±5%	1

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
ALUMINIUM ELECTROLYTIC CAPACITOR			
C613	464-22450-00	CD11L-50V-0.22uf-M	1
C609	464-47450-00	CD11L-50V-0.47uf ± 20%	1
C603	464-22550-00	CD11L-50V-2.2uf ± 20%	1
C612	464-10650-00	CD11L-50V-10uf - ± 20%	1
C611	464-22650-00	CD11L-50V-22uf-M	1
C602	464-22620-00	CD11L-16V-22uf-M	1
CARBON FILM RESISTER			
R612	467-47117-11	RT-13M-0.25W-470Ω-J (For 14" Model)	1
R601	467-10117-11	RT13M-0.25W-100Ω- ± 5%	1
R625	467-10217-11	1KΩ	1
R611, 636	467-12217-11	1.2KΩ	2
R614, 637	467-15217-11	1.5KΩ	2
R636	467-20217-11	2KΩ (For 14" Model)	1
R603	467-32217-11	2.2KΩ	1
R604-610	467-24217-11	2.4KΩ	7
R618, 619	467-39217-11	3.9KΩ	2
R626	467-47217-11	4.7KΩ	1
R634	467-56216-2C	5.6KΩ (For 14" Model)	1
R620, 634, 640, 641	467-68217-11	6.8KΩ	4
R622-624	467-82217-11	8.2KΩ	3
R637	467-15216-2C	RJ14-1/4W-1.5KΩ-G (For 14" Model)	1
R633, 635, 638	467-10317-11	10KΩ	3
R639	467-12317-11	12KΩ	1
R628	467-22317-11	22KΩ	1
R602	467-30317-11	30KΩ	1
R627	467-33317-11	33KΩ	1
R616, 617, 629	467-56317-11	56KΩ	3
R632	467-82317-11	82KΩ	1
COIL			
L601	471-22020-24	LG1-A-22uH- ±10%	1
L602	471-22920-24	LG1-A-2.2uH - ±10%	1
CERAMIC RESONATOR			
CF601	475-34891-02	CSB480E	1

ELECTRICAL PARTS LIST FOR POWER BOARD

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
	782-51122-20	PS PCB	1
DIODE			
D502, 505	340-00038-0R	CDR12-0GA	4
D501	340-00001-0H	1N4148	1
D508, 509	340-00005-0H	S5295J	2
D506, 510	340-00010-0H	S5295G	2
D507	340-00004-0H	ER105	1
D512	340-50007-04	HZ9A2.8V2	1
D511	340-50017-14	HZ9G1.9V1	1
TRANSISTOR			
Q501	343-22000-00	S2000	1
Q502, 504	343-21815-10	2SC1815Y	2
Q503	343-10562-60	2SA562TM-0	1
CONNECTOR			
655-21201-1G	364-32201-92	5264-02 (HOUSING)	1
CN501	364-33101-91	W-P3003 (HEADER)	1
CN502	364-32101-98	B2P-LV-TM (HEADER)	1
655-32201-02	364-33201-91	W-A5003-1N (HOUSING)	1
(R510) ***	364-31101-98	RT-01N-2.3A	2
RELAY			
RL501	457-12002-93	G4W-1112P-US-TV8 (DC12V)	1
CERAMIC DISC CAP.			
C502-505	459-47236-86	DE0807F472Z AC250 (F7.5)	4
C522	459-47133-16	DE709B471K-VA1-KC	1
C518	459-68143-06	DD06-999B681K500	1
C512	459-22234-86	DE7100F222M VA1-KC (F6.4)	1
C511	459-22296-76	DE0805E222Z 1KV	1
C510	459-47293-16	DE1510B472K 1KV (F10)	1
C513	459-15263-26	DE1410BN152K 2KV (F10)	1
POLYESTER CAP.			
C517	462-33311-00	CL11-63V-0.03uf-J	1
C515	462-10412-00	CL11-63V-0.1uF-K	1
METAL POLYESTER CAP.			
C521	462-10453-24	ECQ-E2A104MW (F=20.5)	1
C501, 524	462-68353-24	ECQ-E2AG83MW (F=13.5)	2

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
		ALUMINIUM ELE. CAP.	
C516	464-10650-00	CD11L-50V-10uf- ±20%	1
C514	464-47630-00	CD11L-25V-47uf- ± 20%	1
C509	464-10780-00	CD11L-160V-100uf - ±20%	1
C508	464-33730-00	CD11L-25V-330uf-M	1
C507	464-15790-0C	LGS-2P-400V-150uf (ϕ 22)	1
		CARBON FILM RESISTER	
R504	467-33117-11	RT-13M-0.25W-330Ω-J	1
R521	467-10217-11	1KΩ	1
R518	467-18217-11	1.8KΩ	1
R520	467-27217-11	2.7KΩ	1
R514	467-47217-11	4.7KΩ	1
R515, 519	467-68217-11	6.8KΩ	2
R517	467-82217-11	8.2KΩ	1
R516	467-10317-11	10KΩ	1
R509	467-82527-8A	RG1/2GF 8.2MJ	1
		METAL OXIDE RESISTER	
R506, 507	467-15427-24	RS1/2FB-150K Ω - JL	2
R511	467-33847-24	RS2FB-0.33 Ω - JL (F=25)	1
R505	467-22947-24	RS2FB-2.2 Ω JL (F=25)	1
R508, 153	467-12047-24	RS2FB-12 Ω JL (F=25)	2
R512	467-27047-24	RS2FB-27 Ω JL (F+25)	1
		NON INFDOMMABLE RES.	
R502	467-56967-5G	RWH5P5.6 Ω J (F=15)	1
R510	467-39068-54	RGU 5P 39 Ω K	1
		VARIABLE RESISTOR	
VR501	468-10201-35	V8K4-11(1S)-1KB	1
		PTC THERMISTER	
R503	469-10002-02	ERP-Z5BON180A	1
		TRANSFORMER	
T501	470-00001-0D	BCK-409	1
		POWER FILTER COIL	
L501, 502	477-20001-12	KDL	2
L503	477-40002-04	CHOKE COIL 5uH	1
	485-10035-00	TS-30Z1H03VVH2-F	1
F501	569-03101-23	FUSE 5ST2 250V	1
		WIRE WITH HOUSING	
	655-32201-02	CN303	1
	655-21201-16	CN302	1

ELECTRICAL PARTS LIST FOR SOUND CONVERTOR BOARD

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
R1	467-33117-11	RT-13M-0.25W-330 Ω ± 5%	1
Q1	343-21815-10	2SC1815Y	1
CNA01	364-34102-92	5268-04A	1
C4	459-47012-06	DD106PH470J50	1
C1-C3	462-12312-00	CL11-63V-0.012uf ± 10%	3
R3	467-75317-11	RT-13M-0.25W-75KΩ ± 5%	1
R4	467-12317-11	12KΩ	1
R5	467-15217-11	1.5KΩ	1
R2	467-33117-11	330 Ω	1
T1	477-31106-04	IA7-006 (500KHZ)	1
T2	477-32107-04	IF7-007 (6.5MHZ)	1
CF1	475-15593-03	SFE5.5MB	1
CF2	475-16593-02	SFE6.5MB	1
	782-51010-15	SOUND CONVERTOR BOARD	1

ELECTRICAL PARTS LIST FOR CRT BOARD

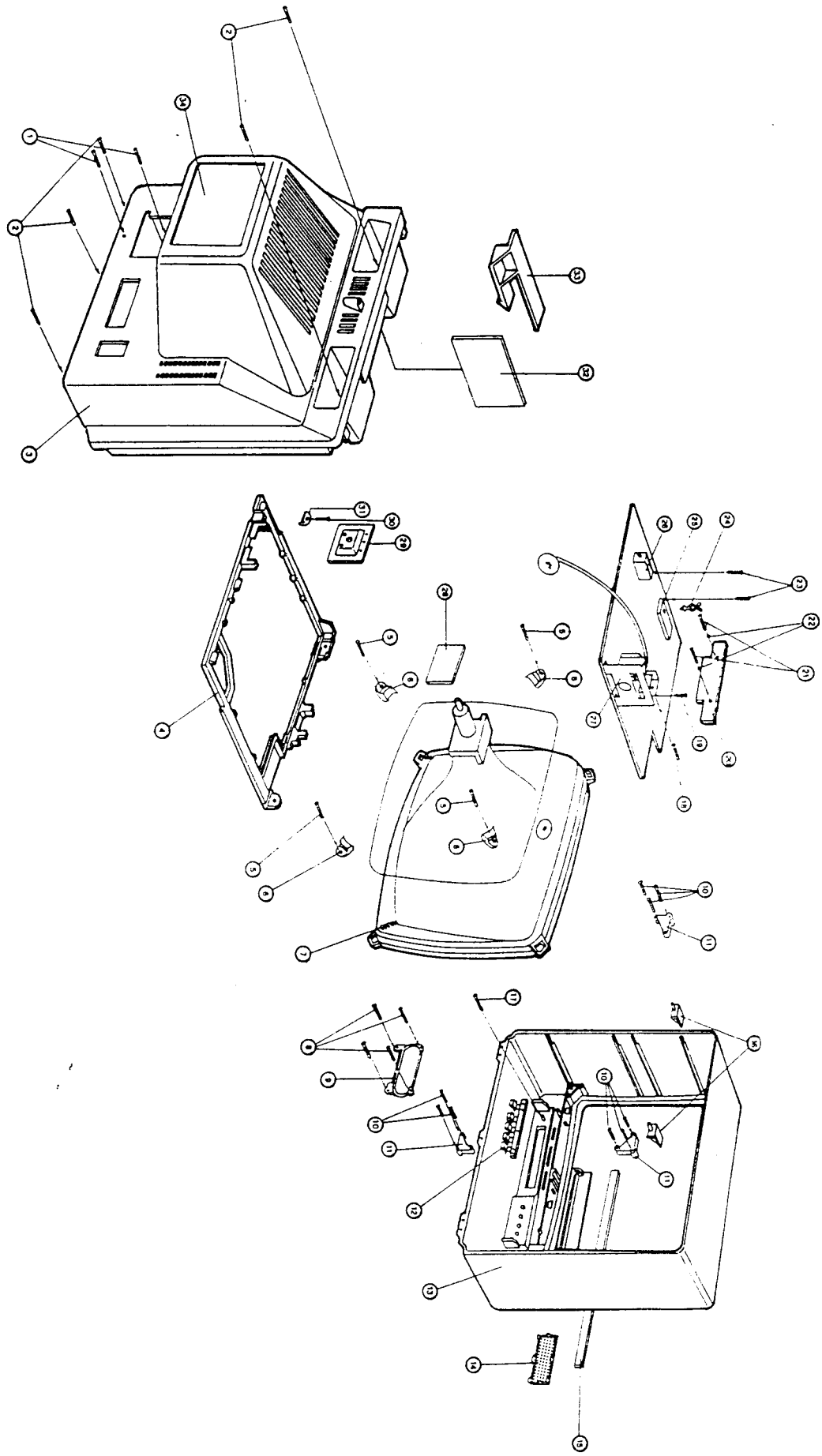
SYMBOL	PART NO.	DESCRIPTION	QUANTITY
	782-37020-02	CRT PCB	1
TRANSISTOR			
Q401-403	343-22482-07	2SC2482 (hfe: 80-120)	3
CONNECTOR			
CRT SOCKET	364-58201-91	S-B0894#1 (WITH HOUSING)	1
CERAMIC DISC CAP.			
C401, 403, 405	459-10112-11	RAU08CH101J-L45AC	3
C402, 404, 406	459-10213-11	R0U05B102K-L05AC	3
C407	459-15263-16	DE1007B152K2	1
CARBON FILM RES.			
R401	467-12117-11	RT13M-0.25W-120Ω - J	1
R402, 406, 410	467-15217-11	1.5KΩ	3
R403, 407, 411	467-47217-11	4.7KΩ	3
R404, 408, 413	467-47227-13	RT13M-0.5W-4.7KΩ - J	3
METAL OXIDE RES.			
R405, 409, 412	467-15347-24	RS2FB-15KΩ - JL (F=25)	3

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
		POTENTIO METER	
VR402	468-20102-2R	GVP092-3-200 Ω GREEN	1
VR404	468-20103-2R	GVP092-3-200 Ω BLUE	1
VR401	468-10301-2W	WI02A-1-10K RED	1
VR403	468-10302-2W	WI02A-1-10K GREEN	1
VR405	468-10303-2W	WI02A-1-10K BLUE	1

ELECTRICAL PARTS LIST FOR TRANSMITTING

SYMBOL	PART NO.	DESCRIPTION	QUANTITY
	782-19050-07	TRANSMITTING PCB	1
		INFRAED DIODE	
LED701	340-40005-2Q	EL-1L1	1
		TRANSISTOR	
Q702	343-10562-60	2SA562TM-0 TYPE 1	1
Q701	343-21815-60	2SC1815-0	1
		INTEGRATED CIRCUIT	
IC701	352-10708-9D	M708LB1	1
		CERAMIC CAPACITOR	
C701, 702	459-10112-11	RAU08CH101J-L45AC	2
		ALUMINUM ELECTROLYTIC CAPACITOR (SINGLE ENDED TYPE)	
C704	464-10710-00	CD11L-10V-100uf-M	1
		CARBON FILM RESISTOR	
R702	467-47017-11	RT13M-0.25W-47Ω ± 5%	1
R701	467-10217-11	1KΩ	1
R703	467-56217-11	5.6KΩ	1
		CERAMIC RESONATOR	
CF701	475-34891-02	CSB480E	1
		STANDARD UL WIRES	
P.C.B. +	770-06106-02	SBVR-7x0.1 (φ0.85) RED	1
P.C.B. -	770-06106-00	SBVR-7x0.1 (φ0.85) BLACK	1
			1

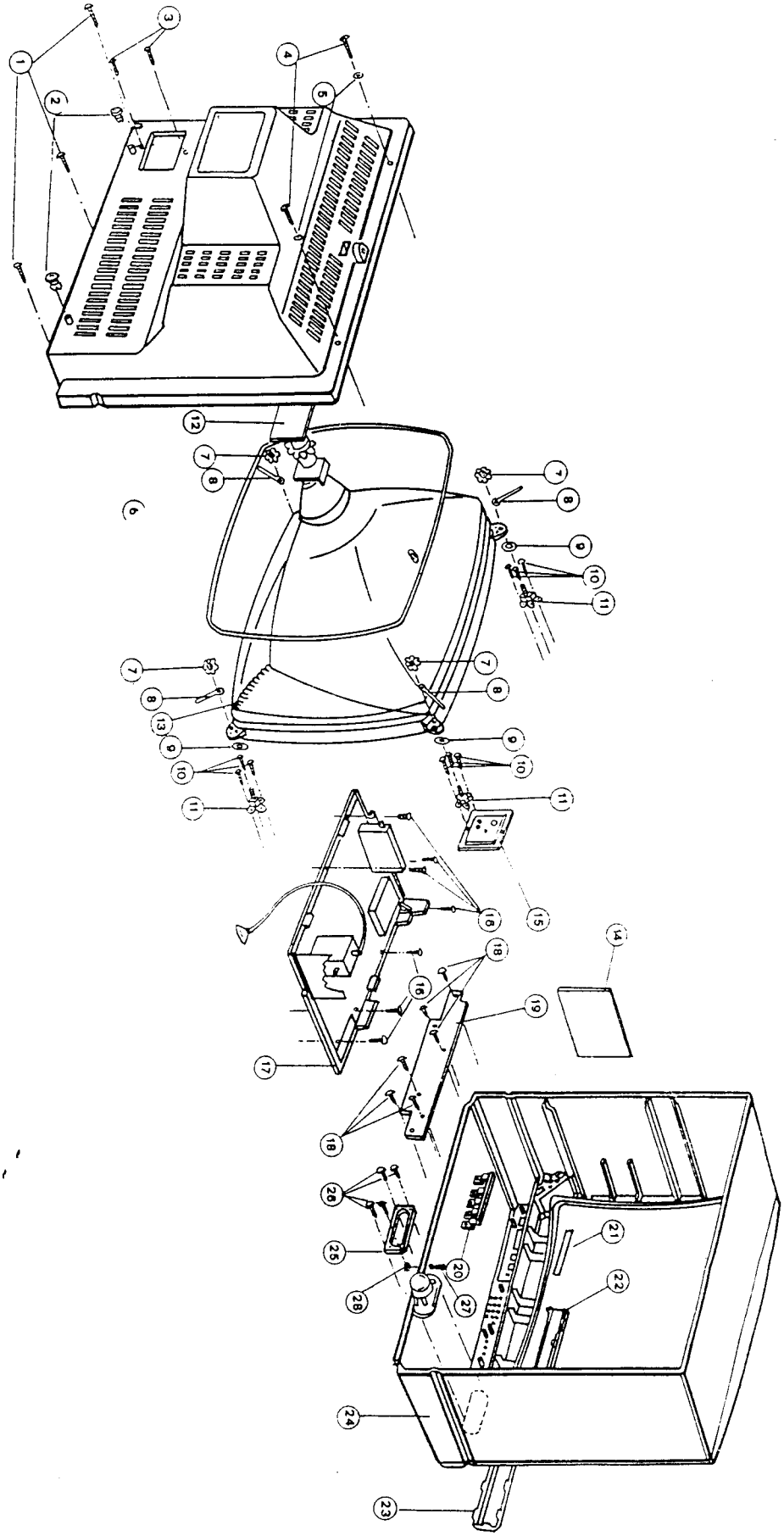
EXPLODED VIEW FOR 14" MODEL



MECHANICAL PARTS LIST

ITEM	PART NO.	DESCRIPTION
1	852-13010-84	Screw P/H(+) M3 x 10
2	851-34018-11	Screw B/H(+) T4 x 13
3	780-10033-01	Back Cabinet
4	870-20131-03	Chassis Bracket
5	851-34030-11	Screw B/H(+) T4 x 30A
6	870-20020-00	CRT Mtg. Holder
7	838-10164-00	CRT Spring
8	851-33010-31	Screw P/H(+) T3 x 10BT
9	869-20032-00	Speaker Mtg. Bracket
10	851-33520-31	Screw B/H(+) T3.5 x 20BT
11	868-80015-00	CRT Holder
12	877-60167-01	Knob
13	780-10130-01	Front Cabinet
14	864-10009-00	Speaker Grille
15	740-10034-00	Front Lens
16	807-10020-00	Cab. Mtg. Bracket
17	851-12510-11	Screw P/H(+) T2.5 x 10
18	852-13006-81	Screw P/H(+) M3 x 6
19	851-63010-11	Screw W/H(+) T3 x 10A
20	667-37255-05	Control PCB Ass'y
21	851-63012-31	Screw W/H(+) T3 x 12BT
22	868-20037-00	Fibre Washer
23	852-13012-12	Screw P/H(+) M3 x 12
24	870-20060-00	Cord Mtg. Bracket
25	859-11032-00	PIF Shielding Cover
26	590-60101-44	Tuner
27	706-20041-00	Power Supply Heat Sink
28	667-51050-02	CRT PCB Ass'y
29	596-50014-05	ANT Adapter Ass'y
30	851-33012-31	Screw B/H(+) T3 x 12BT
31	785-70025-01	Washer Fir Cord
32	667-51255-20	Power PCB Ass'y
33	820-10014-00	PCB Cramp

EXPLODED VIEW FOR 20" MODEL



MECHANICAL PARTS LIST

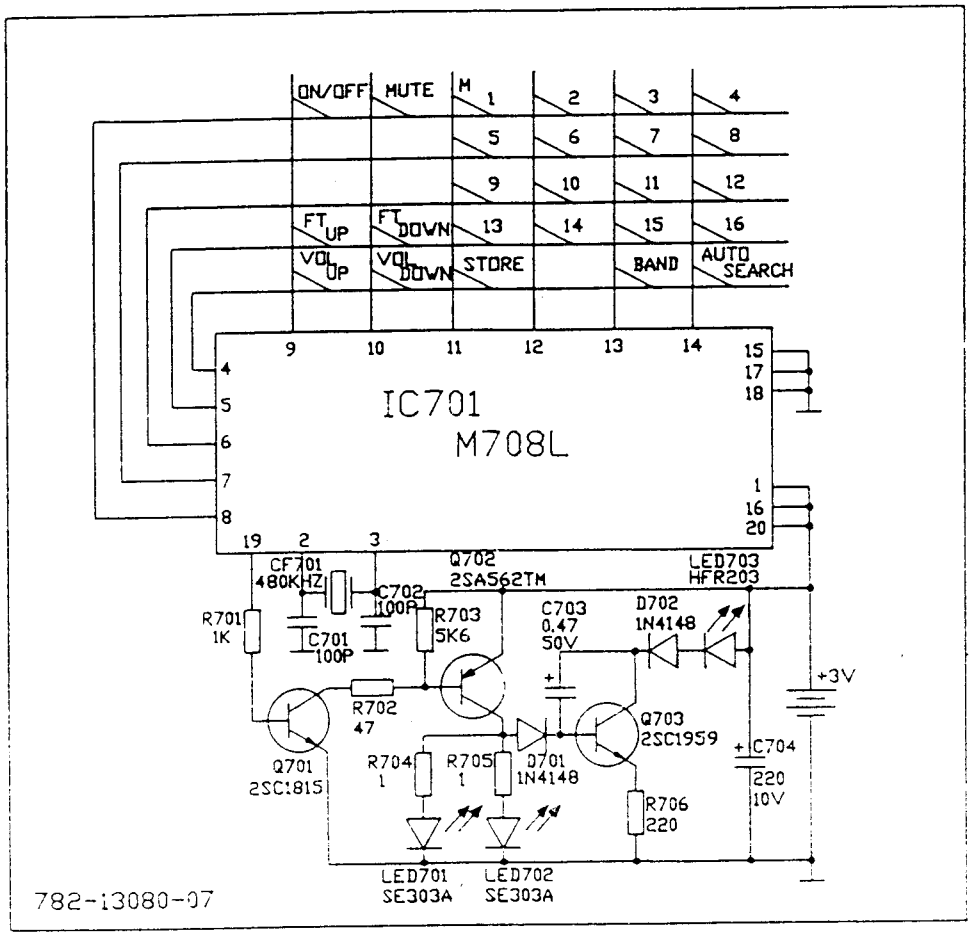
ITEM	PART NO.	DESCRIPTION	QUANTITY
1	851-34016-11	Screw B/H (+) T4 x 16A	3
2	864-80013-00	Inlay	2
3	852-33010-84	Screw B/H (+) M3 x 10	2
4	851-14016-11	Screw P/H (+) T4 x 16A	2
5	894-13000-00	Washer	2
6	780-10119-01	Back Cabinet	1
7	648-30001-00	Nut with Washer M6	4
8	866-40007-00	Clipper	4
9	785-30002-10	Rubber Ring	4
10	851-14020-31	P/H (+) T4 x 20BT	12
11	612-30001-00	Holder Ass'y	4
12	667-51255-02	CRT PCB Ass'y	1
13	838-10012-00	Braided-wire Spring	2
14	667-51255-20	POWER PCB Ass'y	1
15	596-50013-05	ANT Ass'y	1
16	851-63008-21	Screw W/H (+) T3 x 8B	7
17	863-60051-00	Frame	1
18	851-63010-21	Screw W/H (+) T3 x 10B	6
19	667-51255-05	Control PCB Ass'y	1
20	877-60148-00	Button	1
21	743-10014-02	Decorative Panel	1
22	808-10122-03	Pre-set Door	1
23	864-10027-00	Speaker Grille	1
24	780-10117-03	Front Cabinet	1
25	861-10093-00	Speaker Holddown	1
26	851-33012-12	Screw B/H (+) T3 x 12A	4
27	852-63018-82	Screw W/H (+) M3 x 18	1
28	893-10300-12	Nut M3	1

SPECIFICATIONS

Colour System	: CCIR PAL/SECAM (B/G, D/K)
Receiver Channel	: VHFL CH2-CH4; VHFH CH5-CH12; UHF CH21-CH69
(Cable Channel)	: S1-S3; M1-M10; U1-U10
Scanning	: 625 Lines; Horizontal 15625Hz; Vertical 50Hz
IF Frequency	: Video 38.9MHz; Sound 32.4/33.4MHz; Chroma 34.47MHz
Inter-Carrier Frequency	: 5.5/6.5MHz
Audio Output	: 1.5W Max.; 1W 10% THD (For 14" Model)
	: 2W Max.; 1.5W 10% THD (For 20" Model)
Sensitivity	: VHFL 32uV; VHFH 45uV; UHF 45uV
Power Supply	: AC220 ~ 240V
CRT	: 37cm Diagonal/90 Deflection Angle (For 14" Model)
	: 51cm Diagonal/90 Deflection Angle (For 20" Model)
Speaker	: Rectangular Speaker (3.5 x 2.0 inch)
Antenna Impedance	: VHF/UHF 75ohm
Dimensions (W x H x D)	: 361 x 356 x 378mm (For 14" Model)
	: 496 x 480 x 482mm (For 20" Model)
Weight	: 12 Kg (For 14" Model)
	: 22 Kg (For 20" Model)

* Design and specifications are subject to change without notice.

REMOTE CONTROL TRANSMITTER BOARD



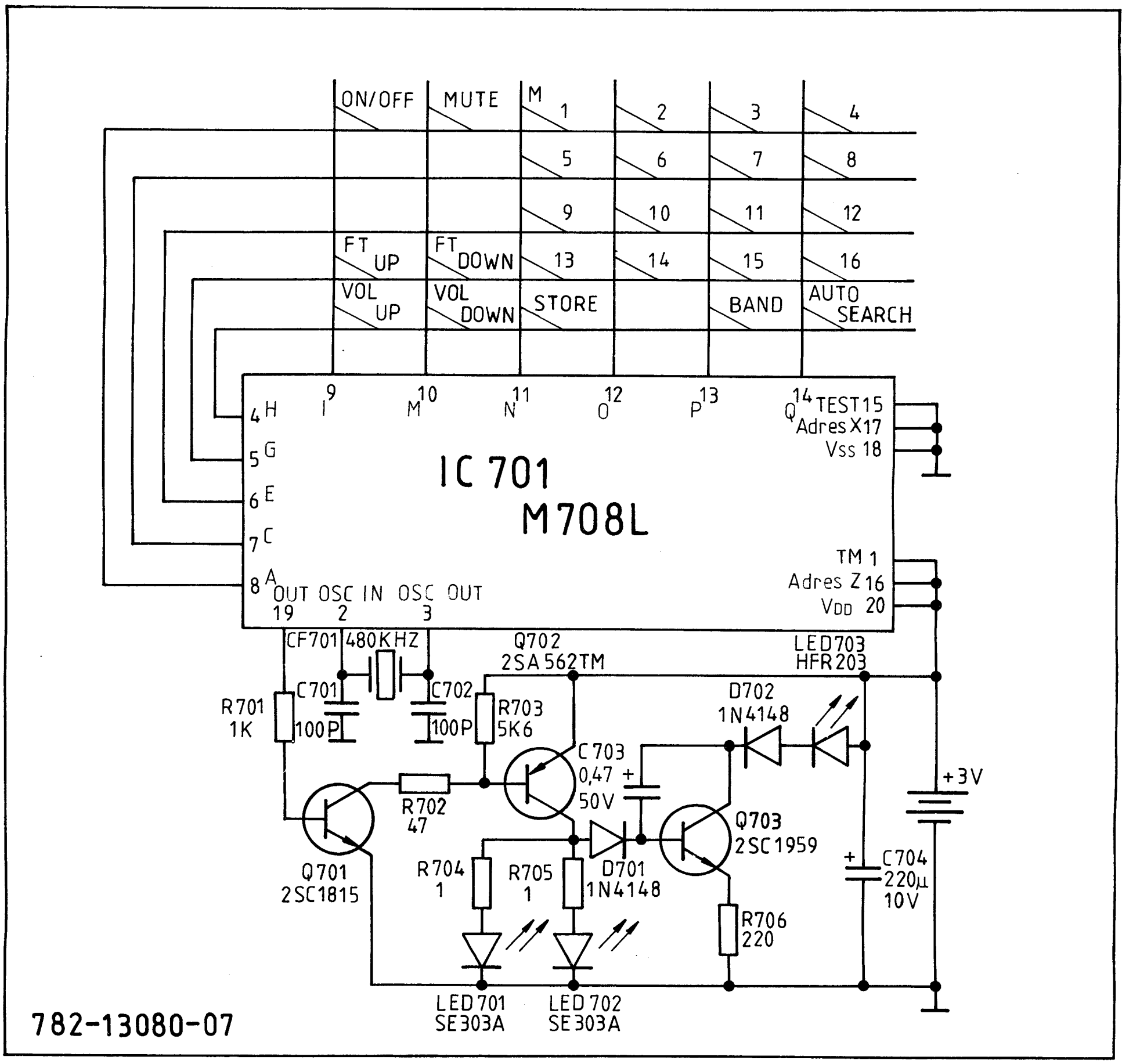
CAUTION: All the parts in the schematic diagram marked with shadows and the sings of ⚠ are extremely important for safety. In case of replacement of any part of the components. Be sure to consult the service manual cerefully.

1. The schematic diagram is characteristic. The various values in the electric circuits are basic data, which are changeable according to the various basic circuits.
2. Testing waves are abtained by inputing the standard coloured bar of the signed.
3. Resistance unit is in Ohm, namely:
   K=1000 M=1000K
   Capacitance unit is in μF.
   P=μμF (μ=10^{-6})
4. All resistors are 1/4W unless otherwise noted inside.
   All capacitors are 50 WV.
5. Inductance unit is in μH.
6. The mark ⊣⊢ in the diagram means Ferrite ring.
7. Some circuits which element number begin with "8" (Q802, R836 etc.) are used only in Remote Controlled set. For manual-control set, the ARC line with arrow must be connected to E5 by the Jumper Line in order to control volume by potentiometer.
8. The symbols of various types of resistors and capacitors are listed as follows:

Carbon Film	
Metal Film	M
Fusible	F
Non-Inflammable	N
Thermistor	Q
Potentiometer	

Ceramic	
AC Ceramic	AC
Polyester	
Polypropylene	
Metal Polyester	
Aluminium	
Tantalum	T
Trimmer	

REMOTE CONTROL TRANSMITTER BOARD



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